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Peatland Rehabilitation and Management Project (PROPEAT)

SOCIO-ECONOMIC BASELINE IN THE MIDDLE MAHAKAM EAST KALIMANTAN PROVINCE



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**Socio-Economic Baseline
Study in the Middle
Mahakam, East
Kalimantan Province**

May 2022

INTRODUCTORY WORD

GIZ PROPEAT is a collaboration program between the German Federal Government and the Government of Indonesia, in order to support the Provincial Government of North Kalimantan and East Kalimantan in encouraging land use (management) in peat and wetland eco systems in East Kalimantan and North Kalimantan to be more ecologically sustainable through the supports to integrative planning, promoting the principles of sustainable management and protection, capacity building and disseminating lessons learned and good practices to all stakeholders.

The programmatic scope of support from GIZ PROPEAT basically starts from the development of basic information, facilitation of policy development, support for the implementation of sustainable land use concept management, alternative economic development and livelihoods with environmentally friendly concepts, action research, and dissemination of various knowledge related to sustainable peat protection and management.

Middle Mahakam peatland landscape is a wide area of peatlands that across administrative borders in the East Kalimantan Province. It includes several districts, sub-districts and villages that living in a kind of unique environmental conditions. Middle Mahakam landscape provides the local community living in the peatland areas with various potentials of economy and resources, from both the aquatic and terrestrial areas. Degradation and deforestation of peatland areas will have a direct impact to the local community's social and economic conditions.





This study is done to collect a comprehensive data on the social and economic conditions of local community living in the Middle Mahakam peatland landscape. The results of the study will be a baseline data for the multi stakeholders to form a comprehensive interventions, in order to promote the sustainable peatland protection and management in the respected areas.

This publication is expected to be a reference for the various stakeholders both at the national, provincial and district/municipality levels in the North Kalimantan Province in order to promote the sustainable protection and management of the peatlands.

Samarinda, May 2022

Tunggul Butarbutar
Principal Advisor

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ABBREVIATIONS

BAU	Business-as-usual
BAPPEDALitbang	Badan Perencanaan, Pembangunan, Penelitian dan Pengembangan Daerah
BPD	Badan Permusyawaratan Desa
BPS	Biro Pusat Statistik
BUMDes	Badan Usaha Milik Desa
EF	Emissions factor
ES	Ecosystem services
FGD	<i>Focus Group Discussion</i>
GHG	Greenhouse Gases
GIZ	Gesellschaft für Internationale Zusammenarbeit
GFW	Global Forest Watch
LU	Land Use
LULUCF	Land Use, Land Use Change and Forestry
MRV	Monitoring, Reporting and Verification
PHU	Peat Hydrological Unit
PSF	Peat Swamp Forest
IPCC	Intergovernmental Panel on Climate Change
KKMsB	Kawasan Konservasi Mangrove dan Bekantan
KLHK	Kementerian Lingkungan Hidup dan Kehutanan
KPH	Kesatuan Pengelolaan Hutan
LPMD	Lembaga Pemberdayaan Masyarakat Desa
NGO	Non Government Organization
PERDA	Peraturan Daerah
PERDES	Peraturan Desa
PDAM	Perusahaan Daerah Air Minum
Pokdarwis	Kelompok Sadar Wisata
RTRW	Rencana Tata Ruang Wilayah

CHAPTER I: INTRODUCTION

I.1. BACKGROUND

Humans have directly utilized peatlands since centuries ago, Traditionally, indigenous peoples used peatland forests as a source of wood for housing, foods, sources of protein (especially fish), traditional medicines and source of clean water for their livelihoods¹. Since the era of the 1970s, a lot of forest area including peatland have been extracted by the timber industry, and in 1980s beside the growing growth of forest extraction companies, transmigration programs have also emerged by expanding the conversion of forest and peatland areas into agricultural land and settlements.

Continuing in 1990 many peatland forest drainage practices began for the purpose of large-scale plantations. Meanwhile, at the same time, the used of peatland forest by the community in a domestic scale is used as source of energy, agricultural land, plantations, and livestock grazing. This natural resource can also be a source of income and well-being².

In the frame of Indonesian-German development cooperation, Federal Republic German supports Indonesian Government (Ministry of Environment and Forestry) and relevant public or private actors on peatland rehabilitation and management at North and East Kalimantan, through the PROPEAT project.

The project aims to improve the peat governance by promoting integrative land use planning where peat inventory in 29 Peat Hydrological Unit (PHU/KHG) in the North and East Kalimantan is one of its main activity. Active participation of the community will be the key factor to ensure the implementation of such planning. The characteristic of community surrounds the peatland area can be assessed through a baseline survey.

The Middle Mahakam is an area where most of PHUs are located and adjacent to the biggest river in East Kalimantan, Mahakam river. It is also included several flood plain lakes such as Jempang Lake (15.000 Ha), Melintang Lake (11.000 Ha), and Semayang Lake (13.000 Ha). The PHU in this area covers approximately 327.839 ha situated in 3 districts Kutai Kartanegara, Kutai Barat and Kutai Timur. Various land-use type such as industrial forest plantation, plantation, crops, and mining are identified and considered to affect the natural resources.

This area has three major lakes, Siran Lake, Semayang Lake, and Melintang Lake. During the long dry season, lake in this peat area usually recedes and leaves a small river. Supported by the Mahakam River which is the largest river in Kalimantan, this peat swamp area is generally inundated by water. Communities living in several villages dependent on rivers and swamps to find freshwater fish as their main source of income.

Meanwhile, in several other villages from this area, there are also various plantation companies that employ local communities and become part of the community's source of income for long time. Although the human development index in East Kalimantan has a fairly high number, field findings show that there are still minor groups who are vulnerable to damaging the environment due to unfavorable socio-economic conditions.

¹ Gunawan, Haris dan Dian Afriyanti. 2019. Potensi Perhutanan Sosial dalam Meningkatkan Partisipasi Masyarakat dalam Restorasi Gambut. Jurnal Ilmu Kehutanan UGM Vol. 13 No.2. Universitas Gajahmada. 2019. . Diunduh pada 15 September 2021 di <https://jurnal.ugm.ac.id/jikfkt>

² Gunawan, Rimbo, Juni Thamrin and Endang Suhendar. Industri Kehutanan dan Dampaknya Terhadap Masyarakat Adat, Kasus Kalimantan Timur. Yayasan AKATIGA Bandung. Desember 1998

A socio-economic baseline provides comprehensive conditions of society at the project intervention areas which can be used as a basis for project approach. Baseline data is also expected to support the planning process for the provincial and district government including their technical agencies and other relevant stakeholders in the peatland management framework.

The multidimensional approach called Nested Sphere of Poverty (NESP) will be applied in this assessment. The NESP measures the comprehensive public welfare using 9 dimensions encompasses Subjective Well Being, Health, Knowledge, Wealth, Natural Sphere, Social Sphere, Political Sphere, Economic Sphere, Infrastructure and Service. In parallel, several approach (Semi Structured Interview and Rapid Rural Appraisal) to obtain more complete information will be also carried out simultaneously.

The result from this survey contains information on condition of public welfare in the region based on the community perception. In addition, quantitative data is measured to obtain level of income, expenditure levels and livelihoods, beside the historical and existing land use (and planning if there is available) by the communities.

I.2. OBJECTIVES

The assessment aims to capture social and economic condition of the community surround the peatland area in Kutai Kartanegara, Kutai Barat and Kutai Timur district as well as their dependency to the peat ecosystem.

The next step is, to enrich the socio-economic analysis in PROPEAT project, a gender analysis in peat forest management is carried out in order to analyse the current state of gender mainstreaming and social inclusion issues in peatland management particularly at regencies of Kutai Kartanegara, East Kutai and West Kutai, East Kalimantan Province, that could be a basis information for action plan development.

In particular, this assessment is expected to Analyse the gender mainstreaming issue in the surrounding village of peatland area, identify gender role in peatland and natural resources management, observe and identify supporting policy regarding the gender equity in managing natural resources in selected villages, and provide advice and bring further expertise refer to the findings.

Furthermore, to be able to provide a community development recommendation which will be submitted to the PROPEAT project, this research will look at the potential opportunities and problems of the community in the peat areas of Kutai Kartanegara, Kutai Barat, and Kutai Timur.

As a starting point for community development, this assessment is try to aim on mapping The Assets of a Community: Individuals- Associations, Institutions; and Provide Strategic Recommendations for Community Development Program Base on Assets.

I.3. EXPECTED RESULTS

The anticipated output from the assessment should cover

- 1) Baseline data of social, economic, cultural and environmental of the selected villages
- 2) Community welfare index around the peat area.
- 3) Identification of peatland utilization within Peat Hydrological Unit area
- 4) Gender role analysis on peatland management.
- 5) Analyzing community perceptions of sustainable peatland management
- 6) Community-based program design to support of sustainable peatland management activities
- 7) Other importance information related to be noted as additional information

The indicators outlined in the study are intended to be measured on the first phase of the project and used as reference to measure improvements in socio-economic conditions in the end of project intervention.

I.4. SCOPE OF WORKS

The consultants work for project PROPEAT to support the project output in the implementation of integrated planning process for the protection and sustainable management of the peat ecosystem. The task of the consultant as follow:

- 1) Develop design of the study and its methodology, this will include the selection of sampling location, define the sampling size and questionnaire development. The preliminary survey could be taken whenever necessary.
- 2) Undertake desk review of socio-economic condition of selected villages from reliable sources such as available data, previous study and literature to support the analysis.
- 3) Undertake the field data collection and manage the resources during the field work including provide training for the enumerator regarding the NESP approach.
- 4) Identify the community-based activities to support the implementation of sustainable peatland management.
- 5) Analyze the findings and elaborate it into a comprehensive report

CHAPTER II: METHODOLOGY

II.1. GENERAL APPROACH

Methodological framework will follow the NESP approach (Gönner *et al.* 2007) and measured indicators will be adopted from available questionnaire which has been used in North Kalimantan. It is also review and synthesis of existing relevant information/publications, policy documents and previous studies to obtain the basic data of selected village condition.

The sampling size and location are identified further by the experts and communicated with GIZ PROPEAT Team and representative of local counterpart. In parallel, Semi Structured Interview to the key person and Rapid Rural Appraisal will be conduct in selected villages that could be as potentially villages for project intervention location. The FGDs in several Sub-District in the peat area in the middle Mahakam will be also conducted to obtain more complete and comprehensive information.

We refer to the NESP method developed by a TEAM of expert researchers initiated through CIFOR-BMZ project in 2006 in the same province. With adjustments related to needs, the location of the village to be carried out by this survey and the questions in the questionnaire, both will be determined at Conducting the Develop study design and questionnaires, so that the determination of the location and the questionnaire will be right on target in accordance with the objectives of this survey.

Sampling was determined from one village to be taken by 8-10% of the household, so that the results of the analysis could represent the community.

In addition, methodology concept will Use be simple enough that it appeals to decision makers who need answers to the following questions: Who are the poor?

- ❖ *How poor are they?*
- ❖ *Where do they live?*
- ❖ *Why are they poor?*
- ❖ *What can be done?*
- ❖ *What are the changes over time?*

In order to capture all these notions and attributes of poverty, we conceptualized our poverty model in a nested shape (Figure 2-1). The center is formed by subjective wellbeing (SWB), surrounded by core aspects of poverty, including basic needs, and the contextual enabling environment that represents the means to escape from poverty.

Subjective wellbeing (SWB) is highly individual and emotional. SWB is influenced by a plethora of factors, including comparison of one's living standard with that of others, or personal feelings of happiness, safety, inclusion and contentedness. It comprises many aspects listed in the World Bank's 'Voice of the Poor' study, such as bodily wellbeing, social wellbeing, having self-respect, or feeling safe and secure¹⁴ and varies with moods and circumstances.¹⁵

Core aspects include 'basic needs' similar to the HDI dimensions, such as food, health, housing and education, but also comprise general individual ('basic') capabilities¹⁶—i.e. skills and physical condition—to get out of poverty. In our model, we aggregate basic needs and individual capabilities into three categories: health, adequate wealth and knowledge.¹⁷ The core is also what most local people

in our Indonesia study expressed as the principal aspects of poverty.¹⁸ Together with SWB, it is a good measure of the poverty status of a household.

Context aspects frame the enabling environment for supporting self-driven attempts to escape poverty. The context includes economic and political opportunities, but also risks and vulnerability to being trapped in poverty. For the sake of simplicity, we segregated the context into four spheres.

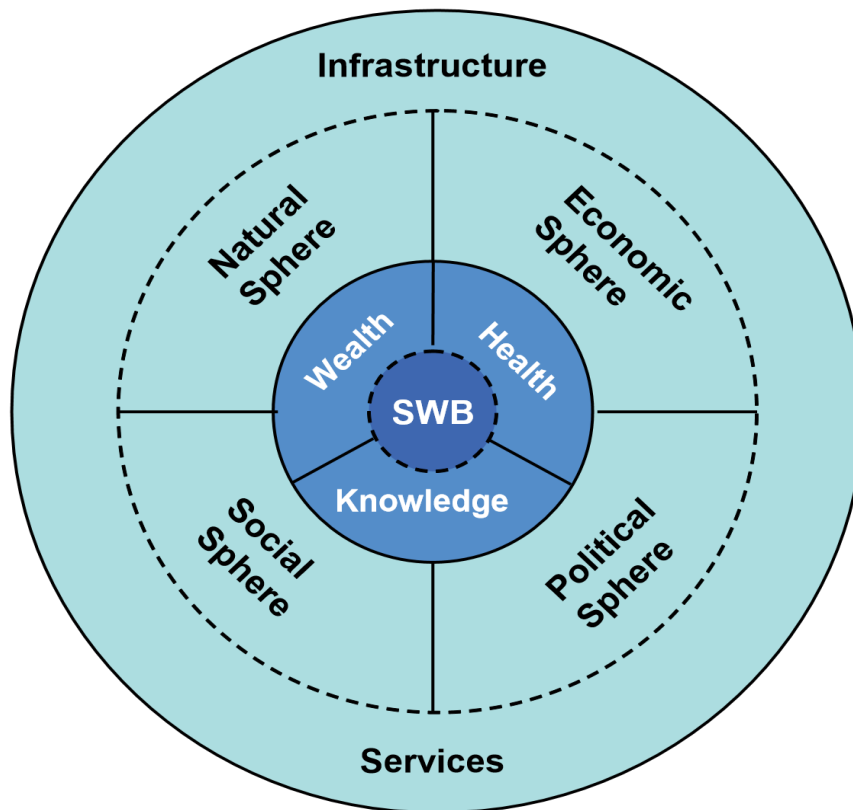


Figure 2-1. NESP – Nested spheres of poverty

- Natural sphere, including availability and quality of natural resources
- Economic sphere, including economic opportunities, but also economic safety nets
- Social sphere, covering social capital and cohesion, trust and conflict
- Political sphere, comprising empowerment, rights and freedom.

The NESP model offers a comprehensive basis for multidimensional poverty and wellbeing assessments. In order to convert it into a locally meaningful and specific concept, however, one needs to represent the model’s spheres with a set of local poverty indicators. These indicators should comply with the following minimum set of ‘SMART’ criteria:²⁴

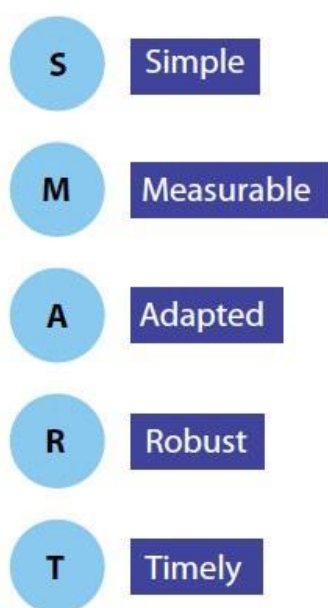


Figure 2-2. SMART criteria for poverty indicators

Simple means that an indicator is easy to understand and practical to use.

Measurable means that the indicator can be reasonably quantified and assessed. It also means that the indicator can be measured by locally available means (e.g. no expensive scientific methodology is needed).

Adapted means that the indicator is location specific, i.e. it should be relevant in its sociocultural and natural-geographic context.

Robust means that the indicator value ideally does not depend on who the assessor is or when the assessment is conducted (unless seasonality is a factor that needs to be captured). Robustness makes an indicator credible and acceptable to policy makers.

Timely means that the indicator changes on the same time scale as the poverty aspects. This facilitates adequate policy responses to the monitoring findings. E.g. if an indicator lags too far behind, impacts cannot be linked to policy action.

Table 2-1. Aspects of the three wellbeing clusters: SWB, core and context

Poverty Sphere		Indicator
S W B	Subjective Wellbeing	Feeling happy
		Feeling prosperous
		Feeling poor
C O R E	Health	Food shortage for over 1 month
		Access to clean drinking water
		Access to health facilities and services
C O R E	Material wealth	Appropriate housing conditions
		Minimum material goods: motor bike/boat
		Minimum material goods: satellite dish/fridge
C O R E	Knowledge	Highest level of formal education in household
		School attendance

C O N T E X T		Informal knowledge/skills
	Natural sphere	General disturbance of nature
		Occurrence of forest fires
		Occurrence of hornbills
		Overexploitation of natural resources
		General water quality
	Economic sphere	Number of income sources
		Stability/reliability of income sources
		Rice stock/ability to buy rice
		Access to capital (credit, loans)
	Social sphere	Level of cooperation
		Trust
		Level of conflict
	Political sphere	Resource use rights and access to resources
		Access to information
		Political participation in decision making
	Infrastructure and services	Access to secondary school
		Quality of education services
		Access to basic health facilities
Quality of health services		
Condition of roads and bridges		
Access to marketplaces		
Access to communication facilities		

NESP as a multidimensional local poverty monitoring system provides comprehensive and relevant information important for district and subdistrict planning. The core and context information can help planning agencies to:

- ❖ Alert the local government on poverty hotspots
- ❖ Alert responsible government sectors
- ❖ Identify needs for addressing acute poverty (basic needs)
- ❖ Anticipate future impoverishment caused by an unfavorable context
- ❖ Identify strategic entry points to reduce chronic poverty
- ❖ Identify strategic entry points to strengthen the enabling environment (context)
- ❖ Identify priority areas for regionally more balanced development
- ❖ Identify which poverty alleviation measures worked and which did not
- ❖ Track changes of poverty data over time.

The monitoring results will be distributed to sub districts and villages, where the findings are checked for plausibility by comparing rankings of the NESP spheres at village level. As the monitoring system does not explain why health is critical, the village assembly conducts a basic causal analysis and elaborates suitable measures which are then proposed to the sub district level.

Here the proposals are collected from all villages and discussed by the sub district government and system, related technical agencies. At the sub district planning session—where the villages are also represented—an annual development plan is prepared and submitted to the district government.

In addition, information can be requested from other government agencies, or from researchers and civil society organizations familiar with the area. If these steps are conducted properly, a revised poverty alleviation strategy should reflect the spatial and sectoral priorities that emerge from

monitoring.

To see gender roles in one village, we used several tools and approaches. Interviews, FGDs, and in-depth interviews

Tool #1 Historical Time Analyses – Trend Analyses

Goal: Create a historical timeline of the work on commodity # 1 in the village/companies/cooperatives/business units. Personal experiences of staff of the village government/companies/cooperatives/business unit' members are also shared.

How: As historical milestones are identified, participants add them to the historical timeline on the wall in the workshop area.

Time: 45 minutes-1 hour.

Suggested Materials:

- ❖ Long roll of paper or several sheets of flip chart paper joined together and taped to a wall with the proposed chart below.
- ❖ Different color Post-its. Alternatively, inputs can be written directly on the paper.
- ❖ Marker pens.
- ❖ It would be good to differentiate between women and men group. Use different post it color used by women and men. We can collate the two different findings and see.

Tools 2 A : Division of labour

General Guideline Question:

- ❖ What do women and men do in the domestic field?
- ❖ What do women and men do in the productive field? (Producing goods or service, bringing in money etc)
- ❖ What do women and men do in the social field? (Adat/village meeting and other social activities)
- ❖ How do changes in the landscape and environment affect work division between women and men in your household and in your community?

Tools 2 B : Division of labour Division of Labor: Commodity #1

Tool 3: Daily, Weekly/Monthly and Yearly Activity Calendar

Questions to the Farmers (as Groups)

What proportion of the households in the community/geographic region would you say are: (seek definition of the wealth classes by the community)

- ❖ What proportions of households have commodity #1
- ❖ What are the main varieties?
- ❖ What are the main objectives of having the commodity #1?
- ❖ How much you get money from the commodity tree?
- ❖ Are there any for different types of households income, outside the commodity #1 ?
- ❖ What is the system of commodity #1 tree management?

Describe whether individual management, communal management or joint? If joint, what activities are done at individual household level and what activities are done at communal level?

II.2. PREPARATION

II.2.1. Develop design of the study and its methodology.

The study design begins with mapping the peat area and is further categorized into 3 categories, namely deep peat, medium peat and shallow peat. From the three peat categories, each district, sub-district and village were selected as representatives to conduct a socio-economic database survey.

The socio-economic indicators used are related to needs according to the NESP which at the literature study stage uses village potential data (BPS 2014). After the database is obtained, then overlay adjustments are made to the categories of the three peat areas above. Thus, an initial description of the socio-economic conditions of the village in deep peat, medium and shallow peat areas is obtained. The selected villages will then be surveyed using socio-economic questionnaires and field observations.

II.2.2. Design questioner preparation,

The questionnaire we developed based on the methodology made by CIFOR, and adapted to the needs and conditions of the Socio-Economy Baseline Study in East Kalimantan Peatland project. The questionnaire was made by referring to the needs of NESP by considering gender and community development aspects. (questionnaire attached)

II.2.3. Preliminary survey

The preliminary survey was not conducted due to budget considerations and limited time, however, virtual communication (phone, zoom meeting and email) was carried out with relevant parties at the location (West Kutai, East Kutai, Kutai Kartanegara and Samarinda) to obtain preliminary information about the location. to be surveyed. Includes access to transportation, accommodation, local PIC and informants who can help facilitate the needs and needs of field surveys.

II.2.4. Enumerator selection

The enumerators selected were 11 person who were final year university students in East Kalimantan (Samarinda) so that they knew more about conditions in the surveyed villages. The selection of enumerators is carried out through selection and before conducting a survey of questionnaire distribution, training in filling out the questionnaires and filling out test exercises will make it easier for enumerators to work in the field.

II.2.5. Selection of sampling location, define the sampling size and questionnaire development.

The sampling locations are in selected villages which are representative of the socio-economic conditions of the community with locations of deep peat, medium peat and shallow peat. The total of all sampling villages is 22 villages with details of 5 villages representing shallow peat, 3 villages representing medium peat and 14 villages representing deep peat.

Viewed from the administrative side, the 22 sample villages are divided into 5 sub-districts and 5 districts as presented in the [Table 2-2](#) Following:

Table 2-2. Administrative locations of the baseline study for the East Kalimantan Peatland social economy survey

Peatland Depth	Kutai Barat	Kutai Kartanegara	Kutai Timur
Deep	<ul style="list-style-type: none"> ❖ Desa Tepian Ulaq (Muara Pahu) ❖ Desa Penyinggahan Ulu (Penyinggahan) ❖ Desa Sebelang (Muara Pahu) 	<ul style="list-style-type: none"> ❖ Desa Melintang (Muara Wis) ❖ Desa Tubuhan (Kenohan) ❖ Desa Semayang (Kenohan) ❖ Desa Tuana Tuha (Kenohan) ❖ Desa Teluk Muda (Kenohan) ❖ Desa Muara Siran (Muara Kaman) ❖ Desa Muara Kaman Ulu (Muara Kaman) ❖ Desa Sabintulung (Muara Kaman) ❖ Desa Tunjungan (Muara Kaman) ❖ Desa Muhuran (Kota Bangun) ❖ Desa Kahala (Kenohan) 	
Moderate		<ul style="list-style-type: none"> ❖ Desa Pela (Kota Bangun) ❖ Desa Genting Tanah (Kembang Janggut) 	<ul style="list-style-type: none"> ❖ Desa Senyiur (Muara Ancalaong)
Shallow/border KHG area	<ul style="list-style-type: none"> ❖ Desa Minta (Penyinggahan) 	<ul style="list-style-type: none"> ❖ Desa Muara Enggelam (Muara Wis) ❖ Desa Sebemban (Muara Wis) ❖ Desa Sebelimbingan (Kota Bangun) 	<ul style="list-style-type: none"> ❖ Desa Senambah/Desa Mulupan (Muara Ancalong)

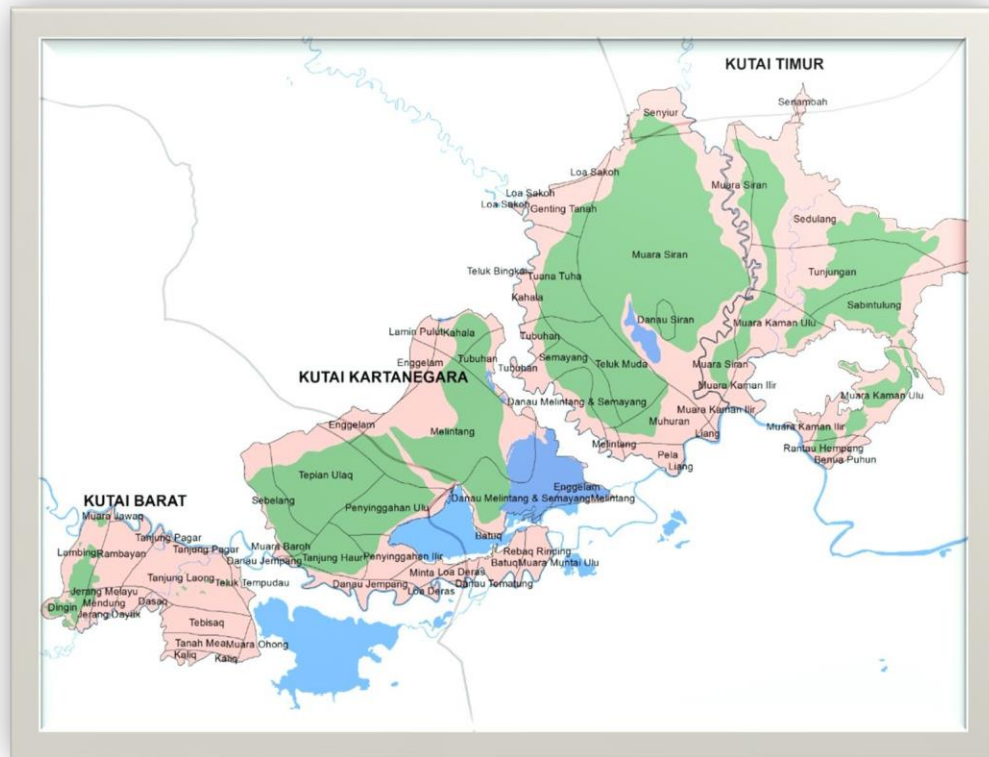


Figure 2-3. Mapping location

To make the work easier, the enumerators were divided into each village and distributed 30 questionnaires each to each village. After completing the distribution of the questionnaires in one village, they then moved to another village.

In addition to distributing questionnaires, observations and focus group discussions (FGD) were also carried out in 5 villages to get a more in-depth picture of the conditions in the villages surveyed. FGDs were conducted with village community leaders, traditional leaders, government elements and key informants.

FGD is divided into 2 types, namely FGD with men and FGD with women. The distinction of this FGD is to accommodate the opinions and aspirations as well as input from women and at the same time to answer the objectives of the study from the gender aspect.

From all villages in the peat area, the NESP survey data collection was carried out in 22 villages for ten days during the day. In addition, FGD data collection was also carried out for 10 days simultaneously in 5 villages representing sub-districts and districts. It is possible that the data obtained have limitations to achieve precise results due to the short duration of field research, as well as limitations in determining research subjects according to the research design.

FGDs were also conducted simultaneously to confirm the questionnaire data and desk review of socio-economic conditions, gender information of selected villages from reliable sources such as available data, previous studies and literature to support the analysis.

II.3. DATA COLLECTION

II.3.1. Field data collection and manage the resources during the field work including provide training for the enumerator regarding the NESP approach.

Field data collection consists of 3 parts:

- Questionnaire data through filling out a list of questionnaire questions assisted by local enumerators. A total of 96 questions questionnaire were interviewed to 641 individuals from 22 villages that had been determined together with GIZ PROPEAT program team.
- FGD data on 5 selected villages, namely Pela Village (Kota Bangun District), Minta Village (Penyinggahan District), Senyur Village (Muara Ancalong District), Muara Kaman Ulu Village (Muara Kaman District) and Kahala Village (Kenohan District).
- Observation data/field observations carried out by experts.

II.3.2. Identify the community-based activities to support the implementation of sustainable peatland management.

Identifying existing activities in the community, especially community activities based on economic/welfare improvement and community activities based on natural resource conservation. These community activities will certainly have an impact on the quality of the peat ecosystem in the future.

The identification of community activities will be seen through the community's answers to the questionnaire and direct observations in the field of community activities and then confirmed through FGDs to extract more in-depth information.

II.4. DATA ENTRY

All data from filling in the questionnaire, notes from field observations and results and formulations during the FGD obtained during field data collection are entered and recapitulated into a database system so that further analysis can be carried out according to the needs of this study (data recapitulation attached).

II.5. DATA PROCESSING AND ANALYZE

Questionnaire data that has been entered is then processed using statistical analysis with Excel software programs to further produce information that is used to discuss and write the results of the study. Narrative data obtained from field observations and FGDs were then analyzed using content analysis to strengthen and support the results obtained from the questionnaire data.

This research uses a combined method, with qualitative narratives from collecting field

observations and reading quantitative data from survey results. Departs from the NESP survey method developed by a team of experts from the CIFOR organization in 2006, with modified questions to obtain the data needed for socio economic, community development studies and gender analysis.

It is hoped that the results of the NESP survey and the results of the FGD can complement the limitations of each method. From the results of the survey and FGD, the assets owned by the community will then be analyzed which have the potential to be developed together with every stakeholder around the area into a program.

The Asset base Community Development model can be aligned with the results from the NESP survey, based on the survey data collected, the results obtained can be seen in the observation model. In analyzing stage the field data that has been collected, the ABCD (Asset Based Community Development) approach is very appropriate at mapping the potential of the community as starting point for community development and for studying the overall picture of the field to design a community development program that is expected to increase the potential that has not been maximized.

CHAPTER III: SOCIAL ECONOMY BASELINE DATA BASE ON SURVEY IN EAST KALIMANTAN PEATLAND

III.1. SOCIAL ECONOMY BASELINE

This research was conducted in three districts namely Kutai Kartanegara, East Kutai and West Kutai. Village sorting was carried out based on the level of peat depth in the three districts and continued with the selection of villages located in deep peat. From the screening carried out, 22 villages were determined, all of which were located on deep peat. Two villages in east district, 4 villages in west Kutai and 16 villages in Kutai Kartanegara.

Based on BPS data (Indonesian central agency for statistics). The percentage of poor people in East Kalimantan in 2018 was 6.03%. This figure decreased 0.16% from 2017 which reached 6.19%. The percentage of poverty in Kutai Kartanegara Regency has decreased successively since 2016. Finally, the percentage of poverty in this area is 7.31%, down 0.26% from 2017 which was 7.57%³. Nevertheless, it is hoped that this figure can still be lowered with the appropriate design of community development programs.

With a large area and diverse characteristics of the people living in this peat area, each village has its own level of potential and problems. Field observations show that some similarities are always accompanied by differences in others. However, the potential for inter-village conflict appears to be very low. Does not rule out every village in this region to cooperate with each other for the benefit of development.

This study will provide recommendations for appropriate community development models to be built with peatland communities for the GIZ PROPEAT Program. Based on the NESP⁴ (nested spheres of poverty) survey approach, it is intended to look at the community and all aspects that support the condition of the community in depth. Based on this, possible opportunities to carry out community development activities can also be seen from the NESP Survey.

Peatland areas in Kutai Kartanegara, West Kutai, and East Kutai areas are areas that have enormous natural resource potential. Since the issuance of the Decree of the Regent of Kutai Kartanegara Number 590/526/001/A.Ptn/2013, this area has been designated as a Conservation Area, starting in October 2013. This peatland area is not only found in Kutai Kartanegara Regency, West Kutai Regency also has a fairly large area of peat forest, in the East Kutai district, precisely in Senambah Village, it has also been used as a peat conservation area. This study aims to see the general description and opportunities of the people who live in this Peat area.

The percentage of community sampling (respondents) is quite balanced where from 641 people interviewed, 259 people (40.41%) are women and 382 people (59.59%) are men. This comparison of the number of people also accommodates gender considerations in data collection.

In terms of age, the average age of the community respondents is 40.64 years. This age reflects

³ <https://databoks.katadata.co.id/datapublish/2019/08/26/inilah-angka-kemiskinan-di-kabupaten-kutai-kertanegara-dan-penjam-paser-utara>

⁴ Gönner, Christian, et al. 2006. Capturing Nested Spheres of Poverty: A Model for Multidimensional Poverty Analysis and Monitoring. CIFOR Occasional Paper No. 46.

the mature age which also reflects that the information provided is reliable. For men the average age is 41.70 years and for women the average age is 39.08 years.

The marital status of the community, most of them 83.93% are married, some are single (12.48%) and 3.59% are divorced (Figure 3-1).

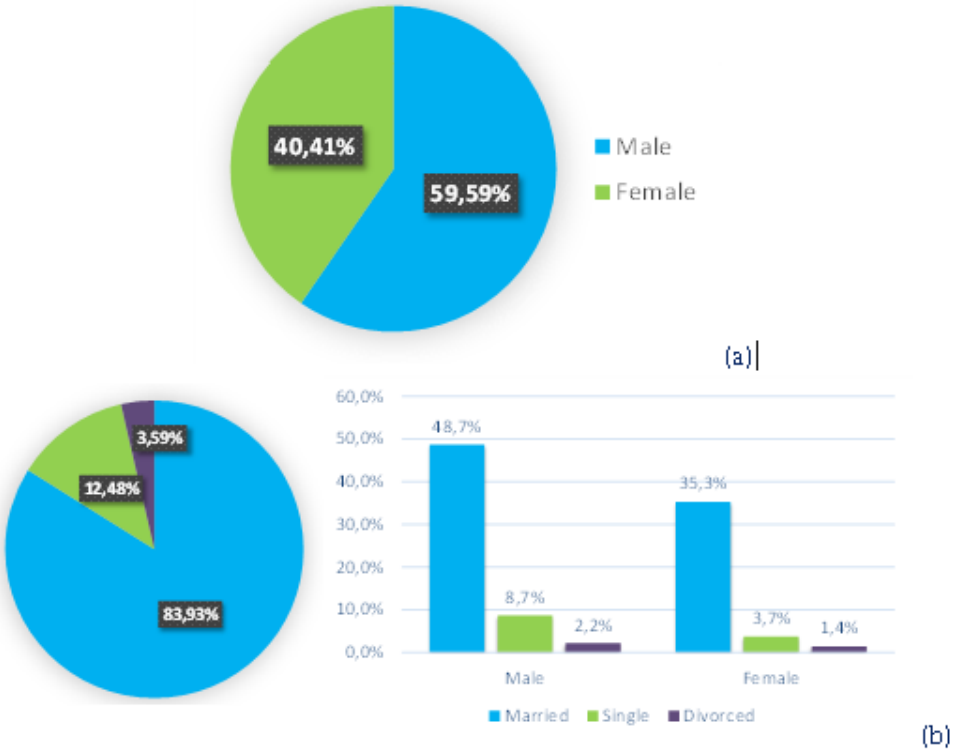


Figure 3-1. Gender composition and status of the respondents

The dominant ethnic group even more than 80% in the surveyed villages is the Kutai ethnic, then the other ethnic groups/ethnics in a small number are the Banjar tribe (14.9%) and the rest are Javanese, Bugis, Dayak and others in small numbers (less than 5%). As an illustration can be seen in Figure 3-2.

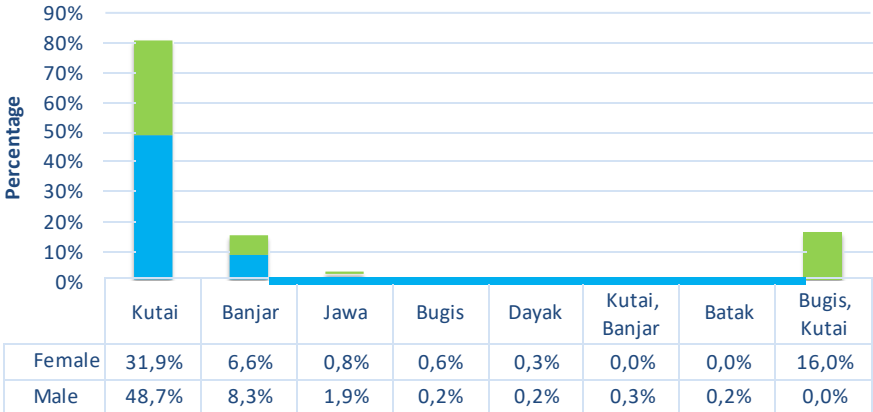


Figure 3-1. Ethnic distribution in the surveyed village locations

In terms of education aspect (see Figure 3-3), the people surveyed were mainly high school education/equivalent (37.44%), followed by elementary education level/equivalent (29.17%), junior high school/equivalent (24.18%) and 8.58% college high/academy. Only a small proportion have never taken formal education (0.62%).

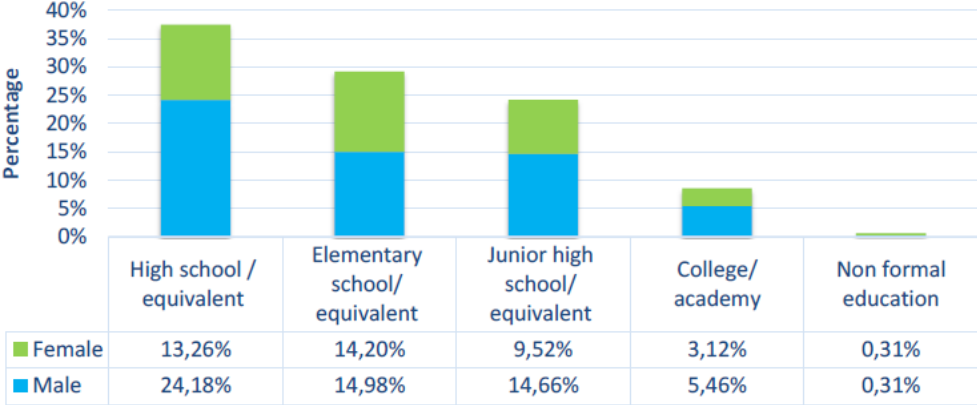


Figure 3-2. Education level of respondents

When we viewed from the level of organizational activity or social activity, as many as 22.86% are active in social organizations and 77.14% are less active in organizations. For people who are actively organizing, the following are the organizations that the community participates in as shown in the Figure 3-4.

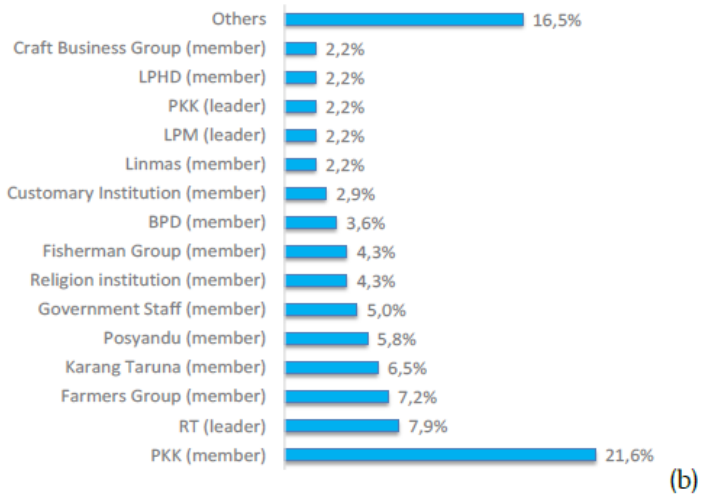
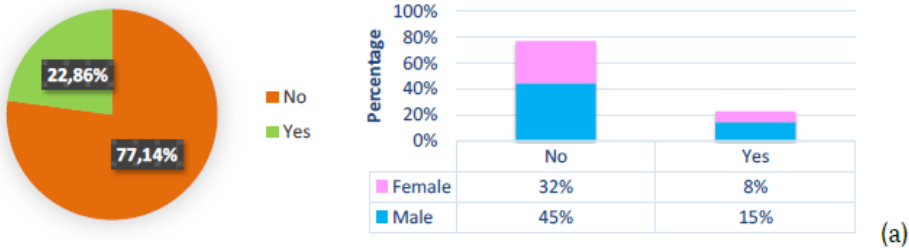


Figure 3-3. Community participation in social organizations

The average number of community family members is 3 people/family. In terms of occupation/livelihood, the main livelihoods of the community are fishermen (river/swamp fishermen) and housewives. Other jobs are as farmers, traders, teacher employees and so on (see Figure 3-5).

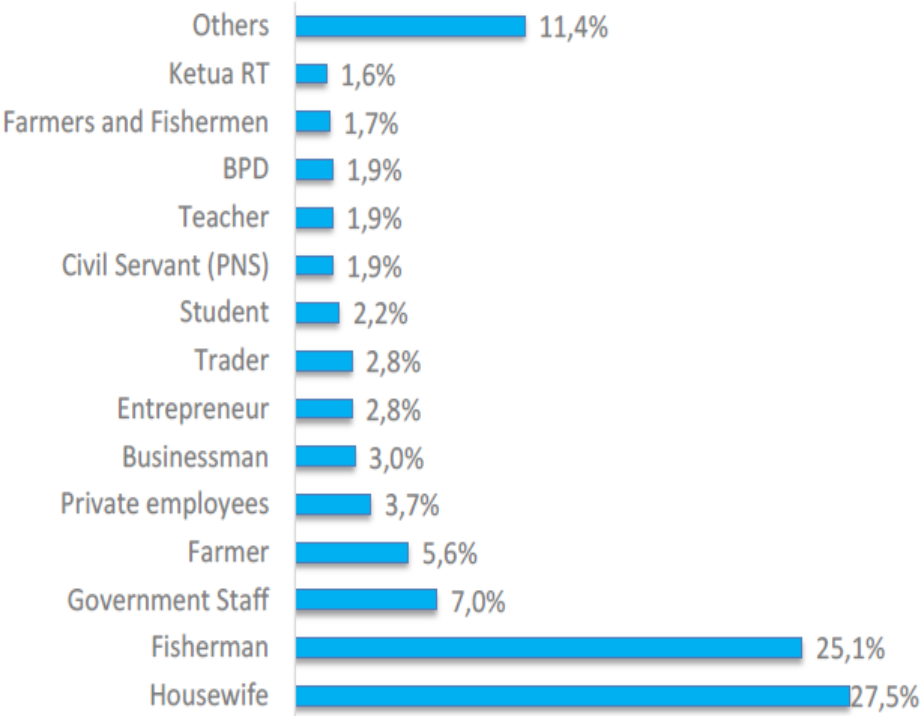
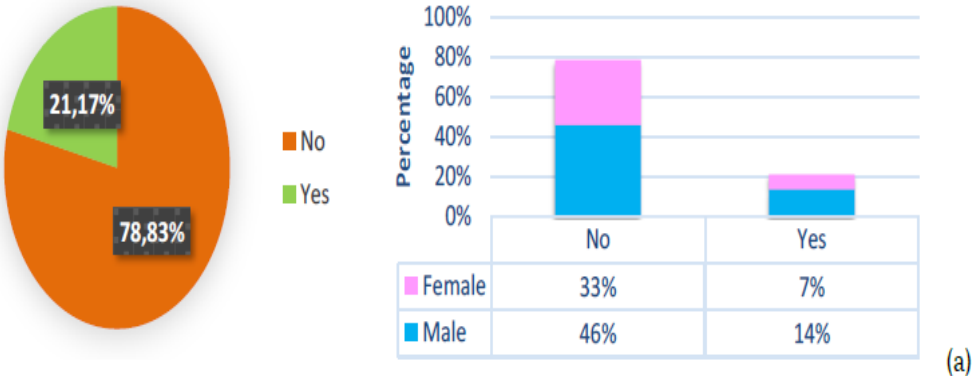
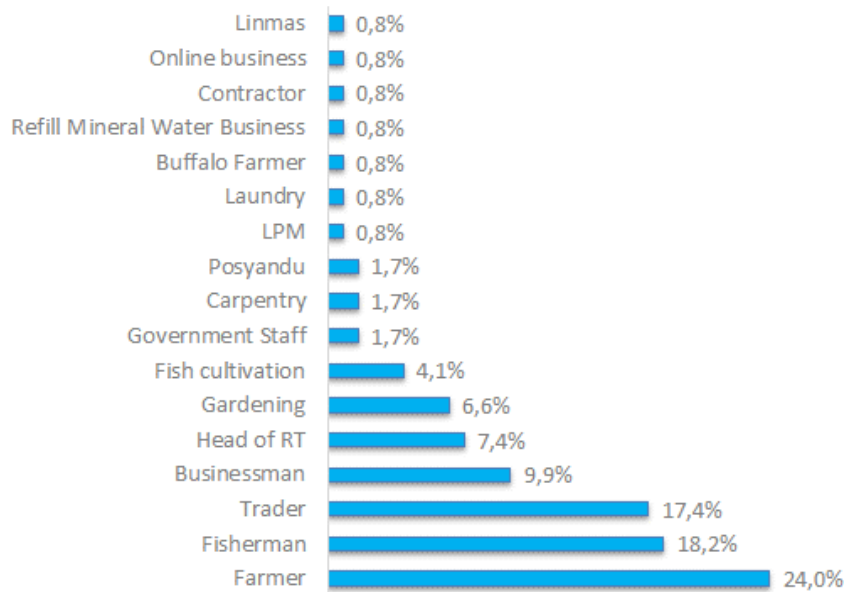


Figure 3-4. Community's main livelihood

In addition to the main job, some people (21.17%) also have a side job, but most (78.83%) do not have a side job. The main side jobs are as a farmer (for fishermen), fisherman (for farmers), traders, entrepreneurs, gardening and carpentry.





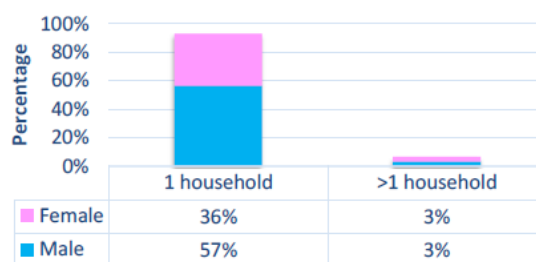
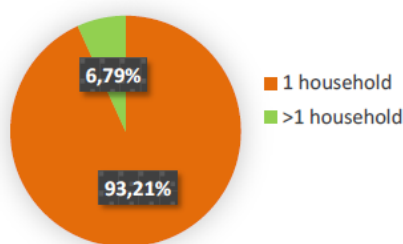
(b)

Figure 3-5. Additional livelihood community

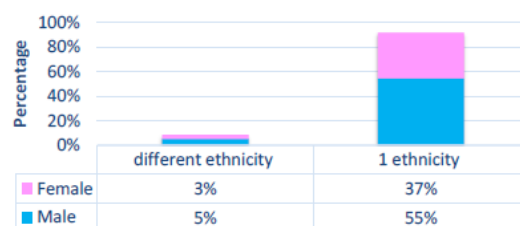
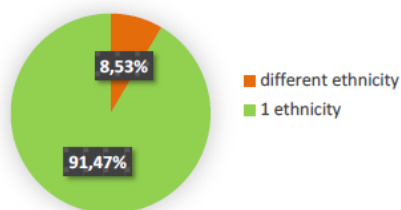
III.1.1. Household

Family members who live in one house are main families, only one head of household lives in one house (93.21%), only a small portion, namely 6.79% of the community consisting of several families living in one house (Figure 3-7). for families of different ethnicities living in one house are also very few (8.53%).

The different ethnic groups between family members are generally the Kutai and Banjar ethnic groups. A small number of others are Banjar-Java, Banjar-Bugis, and Kutai-Bugis.



(a)



(b)

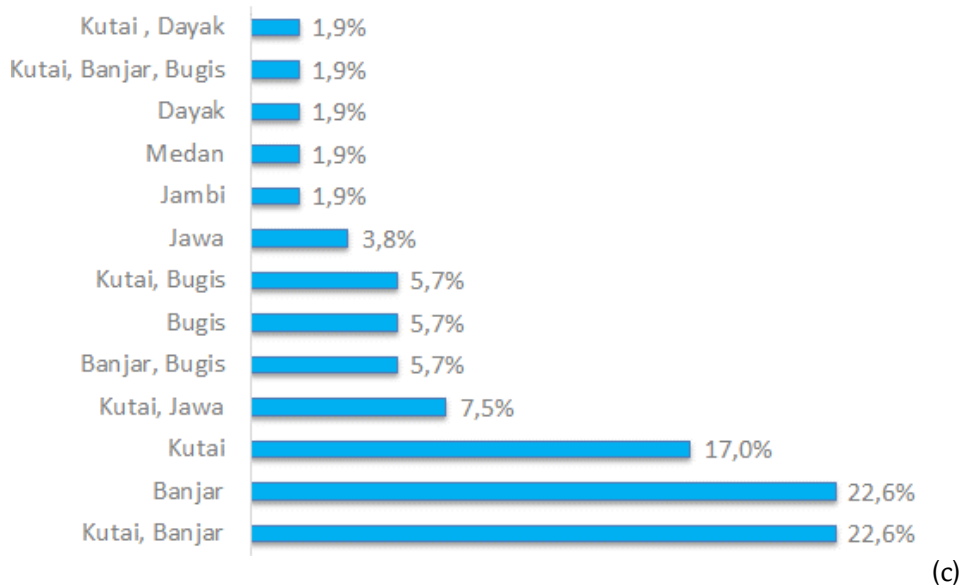


Figure 3-6. Main family and ethnicity within the family

III.1.2. Household Health and Nutrition

The staple food of all family members is rice (100%) with the main side dishes derived from animal protein (river fish). The needs for carbohydrates and vegetable protein are obtained from vegetables, sweet potatoes, cassava and corn.

Sources of staple food are obtained from buying at local markets (69.5%) and in markets outside the village (29.4%). As for the side dishes, they are usually obtained from catching fish themselves and buying them at the local market (Figure 3-8).

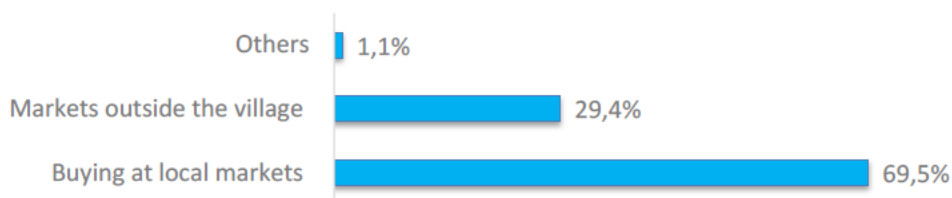


Figure 3-7. Source to community get staple food

To fulfill the need for clean water, the community mainly obtains or uses bottled/refilled water (45.8%) and PDAM (22.6%). Meanwhile, only 6.7% use well water. Other sources of clean water are from rivers, IPAM and buying clean water.

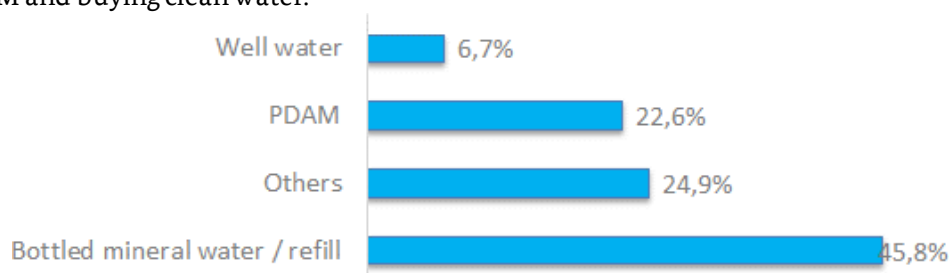


Figure 3-8. Source to community get clean water

Most of the people interviewed (81.31%) had never experienced an illness in the last 1 year. As for those whose family members have experienced illness (18.69%). The main diseases suffered by many are fever (65%), influenza and typhoid. The other diseases are present in small quantities.

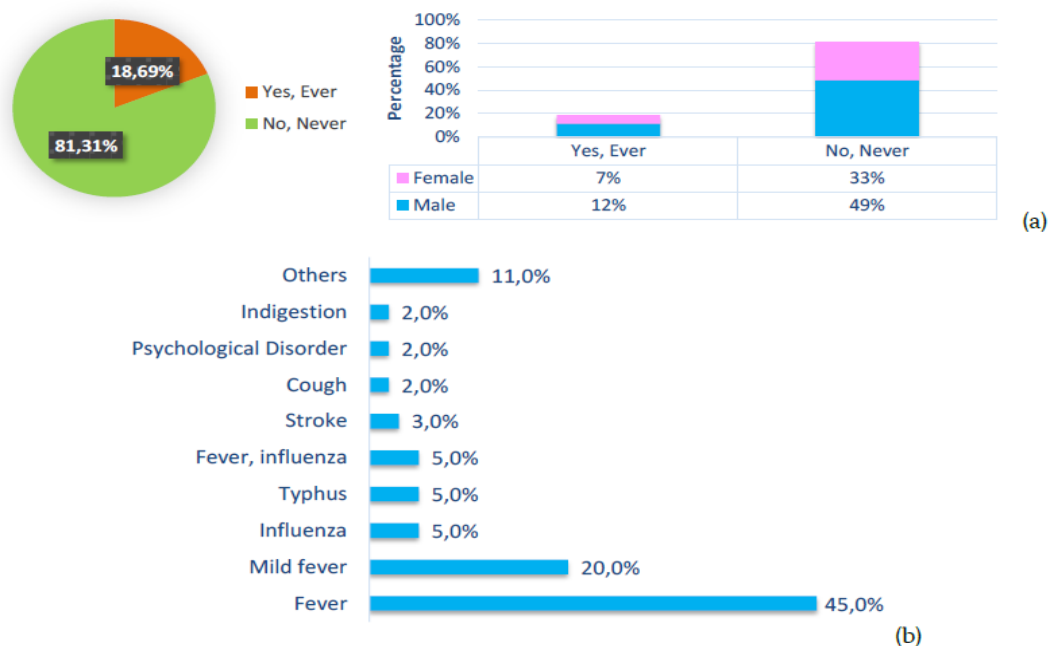


Figure 3-9. Types of diseases that are often suffered by the community

Health facilities are available and are the easiest to access if people are sick. Mainly to village midwives (61.42%), village mantri (11.02%), traditional medicine (3.62%) and only a few go to doctors (2.05%) because the availability of doctors in the surveyed villages is very low. limited. A total of 21.89% went to puskesmas, Pustu and posyandu.

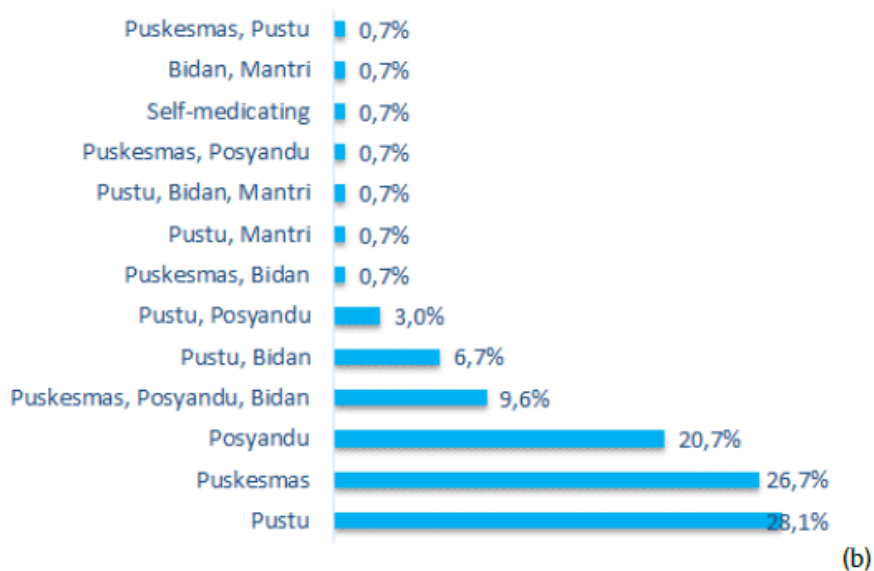
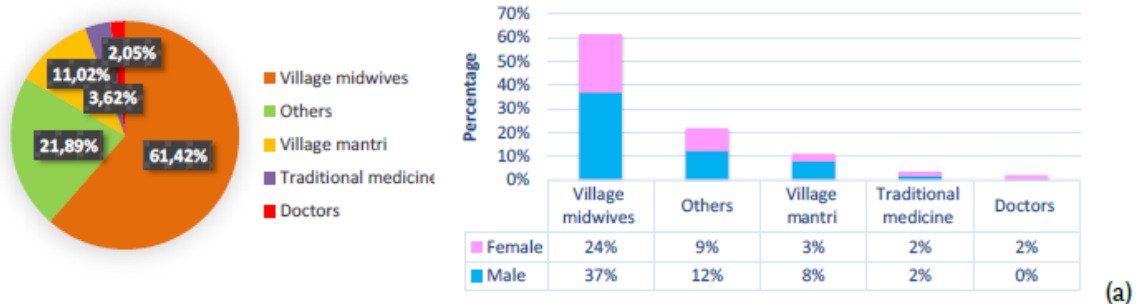


Figure 3-10. Health facilities in the village and the main choice of community

III.1.3. Community welfare

From an external perspective, the community looks quite prosperous (81.59%), sufficient or more than adequate (5.87%) and only a small portion looks less prosperous (12.54%). Furthermore, the distribution of the level of welfare is presented in the following figure:

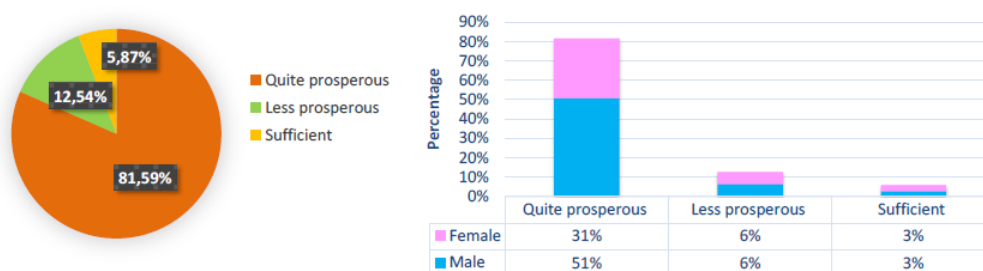


Figure 3-11. Level of community welfare from an external perspective

Visible indicators that describe the level of community welfare are the suitability of clothing (38.4%), ownership of the motorized vehicles (22.3%), electronic equipment (19.8%) and ownership of

cellular phones (14.0%).

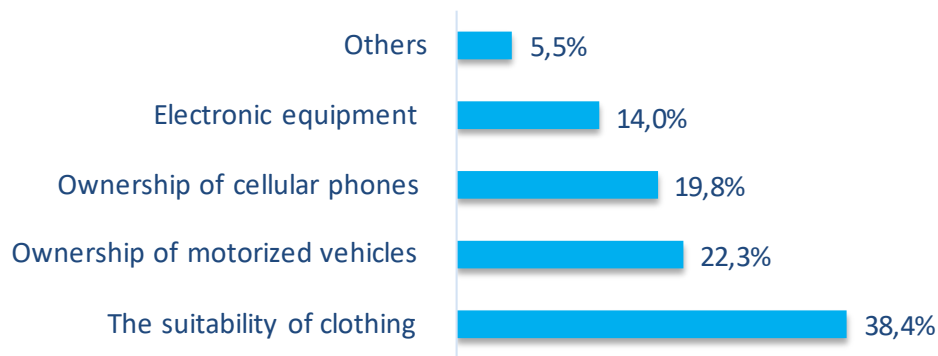


Figure 3-12. Visible indicators that describe the level of community welfare

III.1.4. Access to Households Education

In the household in general, the highest education is the community's children (46.6%), followed by husbands (27.1%) and wives (10.7%), the rest in a small number are parents (3.6%). Family members (children) who attend school and are financed by the family are mostly elementary and junior high schools (64.56%), followed by high school (23.95%) and higher education (5.36%).

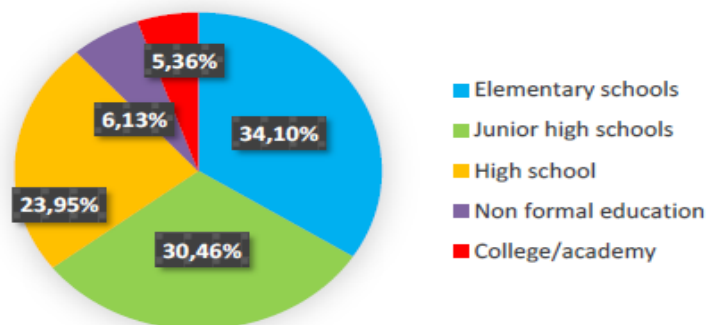
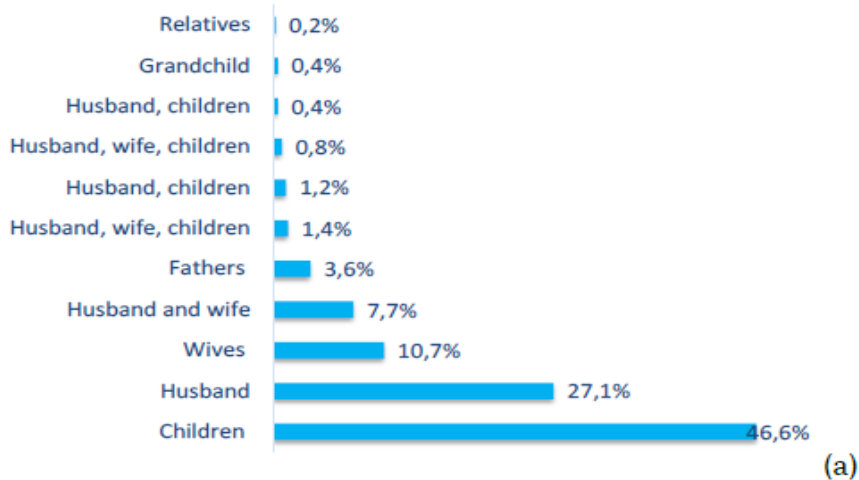


Figure 3-13. Level of education in the family

Regarding skills training that can be used to make money such as making handicrafts that can

be sold, only 6.43% have attended while most of the others (93.57%) have never participated. The most followed training was related to agriculture/plantation (71.11%), workshops and carpentry (8.89%) and others, namely computers and appropriate technology (20.00%)

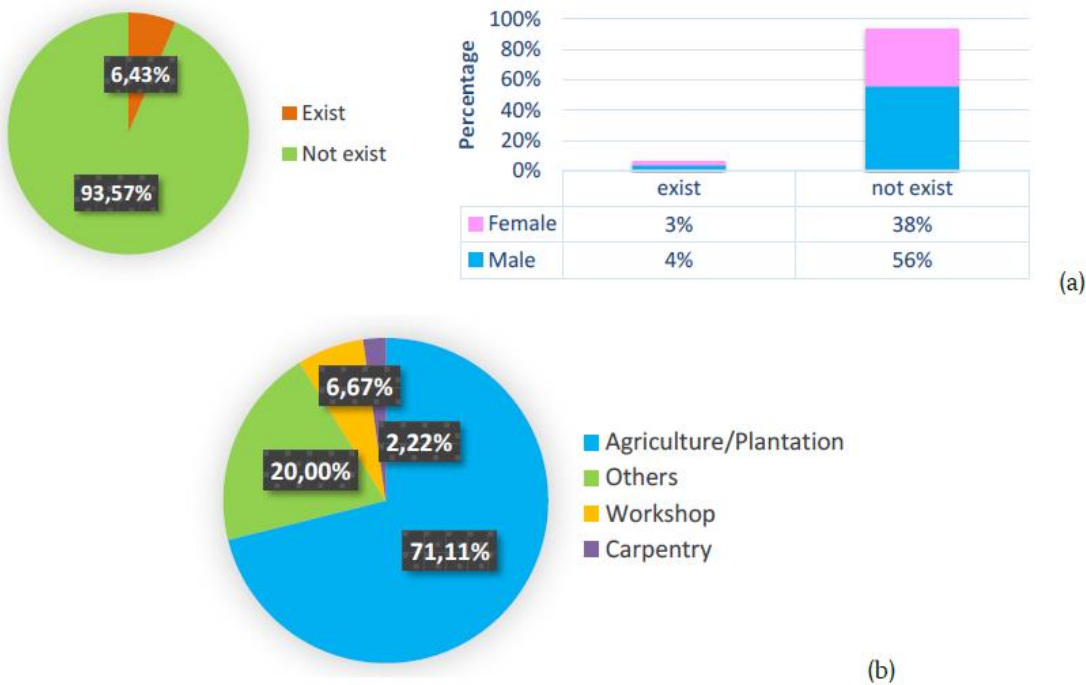


Figure 3-14. Skills training that can be used by the community

According to the community, their economic condition/condition is quite prosperous (90.45%), 1.74% feel more than enough and only 7.73% feel less. This confirms the opinion of the outside community (surveyors) in observing the level of community welfare.

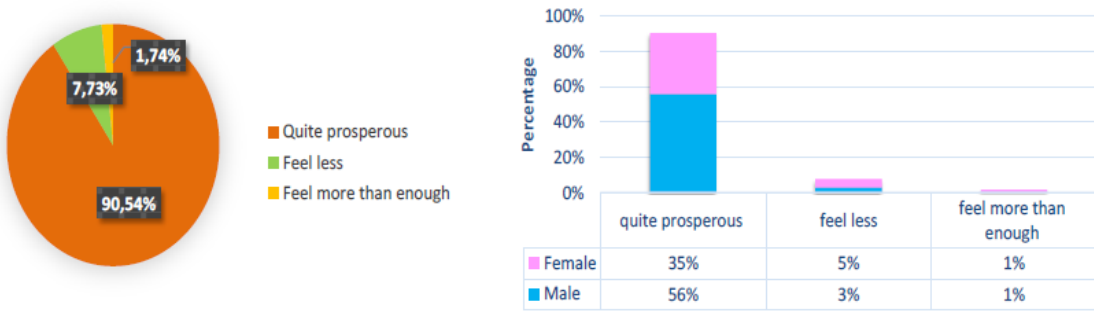


Figure 3-15. Level of welfare according to community

III.1.5. Public perception of natural resources

Related to knowledge about the natural resources around them, the community knows that the river is their main natural resource (51.55%). Next, the community knows forest resources (19.24%). Meanwhile, peat resources are ranked third in the assessment of natural resource knowledge by the community (12.37%).

This knowledge illustrates that peatlands have not been/are not considered a major resource by the village community at this time. This is directly proportional to the people's livelihoods and their daily use of the river more (fishing, transportation, bathing, washing and so on). The use of forests, gardens and rice fields is perceived by the community as the second use of natural resources after the use of rivers.

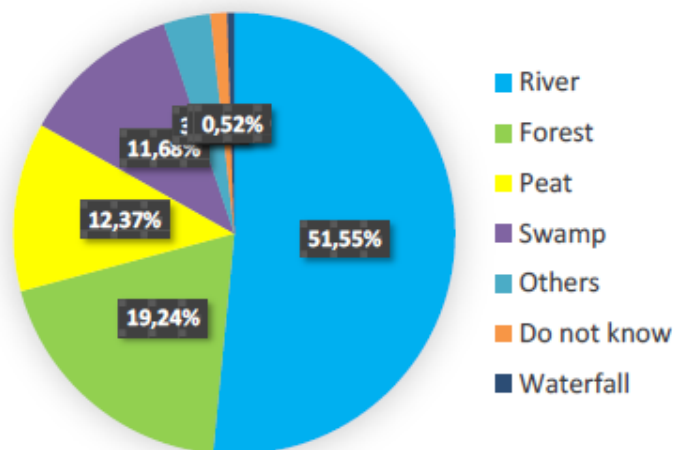
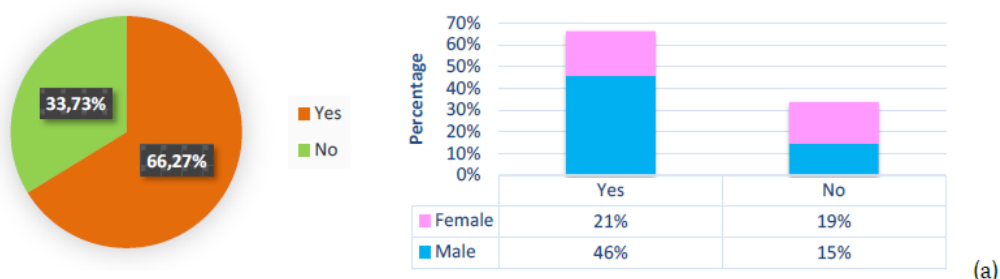


Figure 3-16. Surrounding natural resources according to the community

In relation to the use/utilization of existing natural resources, the majority of the community (66.27%) use the surrounding natural resources directly for their daily needs. Mainly as a livelihood or to increase household income (56.49%).



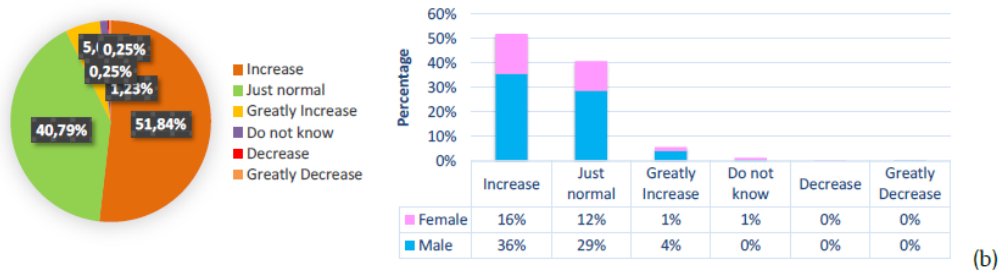


Figure 3-17. Community use of natural resources

The community also feels proud of the natural resources they have (65.02%). a total of 34.48% of the community feels normal with the existence of their natural resources, and only a very few feel not proud (0.49%). Pride in ownership of resources reflects the good potential for conserving these natural resources.

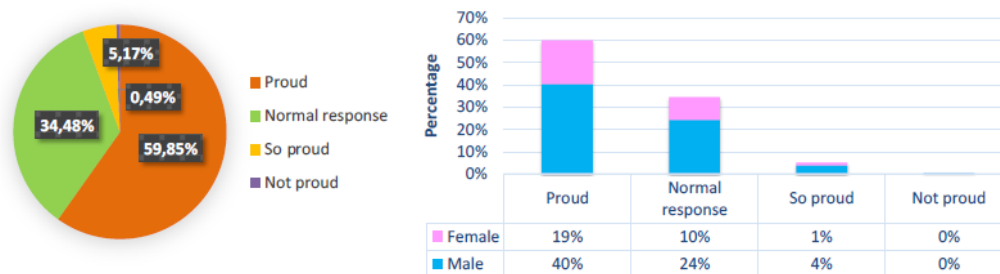


Figure 3-18. Community pride in natural resources

From the perspective of community perception, the trend of the condition of natural resources from time to time (at least the last 5 years) shows a constant trend. This was stated by 41.6% of the village community. There are some who consider the condition to be declining (28.3%), but a number of 23.9% state that the condition of natural resources is getting better.

This illustrates the difference in village locations, namely there are villages that have better management and protection of natural resources, but there are other villages that do not manage and protect natural resources (only use them). Another consideration is due to land use factors by companies or other activities (eg river shipping) which result in resource depletion conditions.

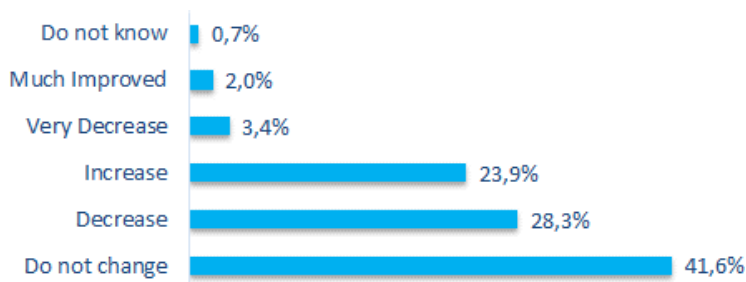


Figure 3-19. Community perception of the condition of natural resources

The community has also realized that the existence of natural resources around them is beneficial for their lives, both individually, family and socially. As many as 89.44% stated this and only 10.32% said it was normal.

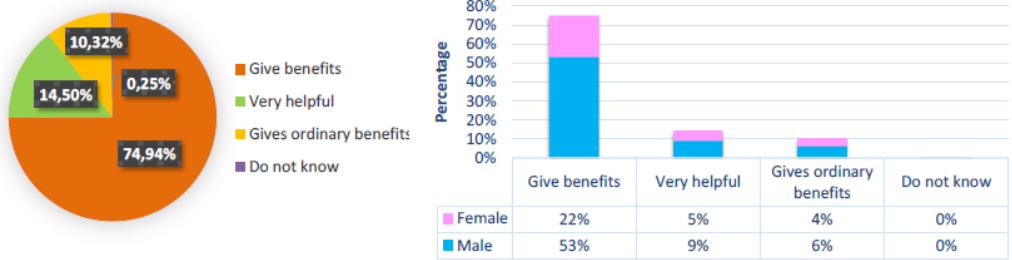


Figure 3-20. Benefits of the existence of natural resources according to the community

There is some local wisdom and village regulations in the community, but many people do not know it. This seems quite strange because the people who live in the village are indigenous people. In this case, only 11.39% knew about the existence of local wisdom, and most of the others did not know.

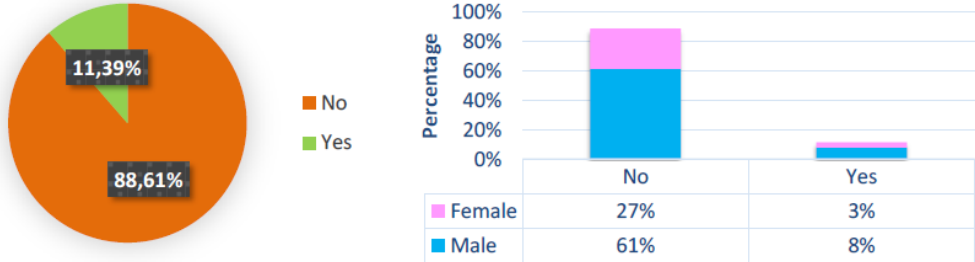


Figure 3-21. Local wisdom in the community

Local wisdom regarding the fisheries sector (use of fishing gear, fishing areas, division of labor between men and women in the fisheries sector, swallow nest cultivation, Mahakam dolphin conservation) as presented in Figure 3-22 and Table 3-2.

Types of Traditional Wisdom	Percentage
Fisheries	50.0%
Peat Management	16.7%
Swallow	7.1%
Erau	7.1%
Using traditional tools	4.8%
Batik Dayak	2.4%
Leho	2.4%
Kue Balok	2.4%
Pesut (Mahakam dolphin)	2.4%
Fiherman Wisdom	2.4%
Selective cutting system	2.4%

Currently, people do not have yet a high awareness that the existence of natural resources around them can run out one day if. Only 41.56% are aware that natural resources may run out someday if their management is not wise or sustainable. Most of the others did not know it (56.48%) and only 1.96% stated that the natural resources in the village would not depleted.

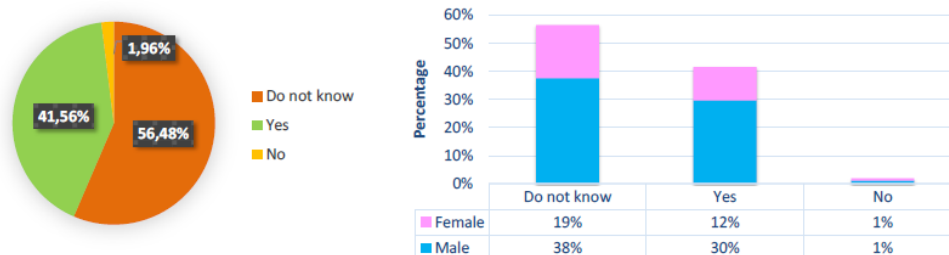


Figure 3-22. Awareness of resource conditions

Opportunities for the depletion of natural resources, among others, are due to continuous exploitation (27.9%), not managed properly (24.2%), excessive extraction due to increased demand/needs (20.6%), land clearing for plantation or mining purposes (7.9%).

Table 3-4. Opportunities for the depletion of natural resources

Opportunities for the depletion of natural resources	Percentage
Exploitation continuously	27.9%
Not managed, cared for and maintained/preserved	24.2%
Human needs are increasing	20.6%
It's getting less and less in nature	11.5%
More oil palm plantations	7.9%
Don't have an opinion	5.5%
Will run out someday	1.8%
Global Warming	0.6%

III.1.6. Perceptions of Protected/Conserved Areas Around the Village

Regarding public perception and knowledge of protected areas/conservation areas, only a small proportion know about protected areas/conservation areas (28.44%) while most of the others (71.56%) do not/don't know yet.

For a small number of people who know about protected areas/conservation areas, in general they know as protected areas (27.2%), forest areas (15.2), peat areas (13.3%), government-owned areas (11.4 %), Mahakam dolphin conservation area (10.8%), nature reserve (8.9%), peat forest (7.6%), lake (1.9%), orchid forest area (1.9%), river 1.3%) and peat swamp forest (0.6%).

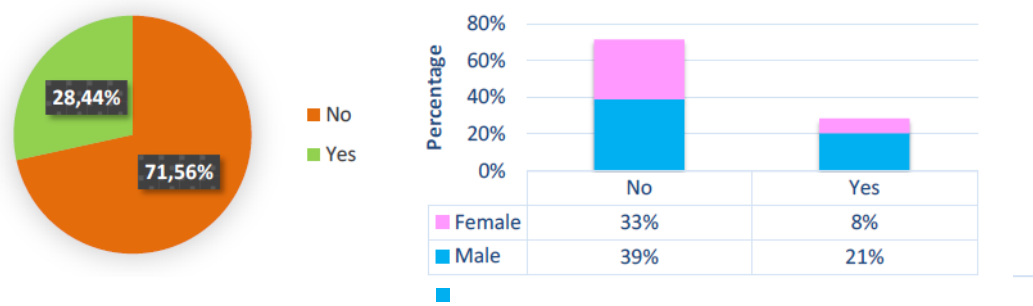


Figure 3-23. Community perception and knowledge of protected areas

Table 3-5. Types of Protected Areas

Types of Protected Areas	Percentage
Protected areas	27.2%
Forest	15.2%
Peat	13.3%
Government Owned Area	11.4%
Pesut Area Conservation	10.8%
Nature preserve	8.9%
Forest, peat	7.6%
Lake	1.9%
Orchid Region	1.9%
River	1.3%
Forest, Swamp, Peat	0.6%

Meanwhile, if explored more deeply with regard to protected areas/conservation protected by the state/companies/communities around their villages of residence, a total of 68.8% stated that there were no protected/conservation areas protected around their villages. Meanwhile, 31.16% stated that there was a conservation area/protected area.

The conservation areas are nature reserves (26.0%), peat areas (21.4%), protected forest areas (12.3%), dolphin conservation areas (9.1%), orchid areas (7.1%)., government-owned area (6.5%), state forest area (3.9%), WWF area (3.2%), Lake Kenohan (3.2%), Fisheries Service (2.6%), and others.

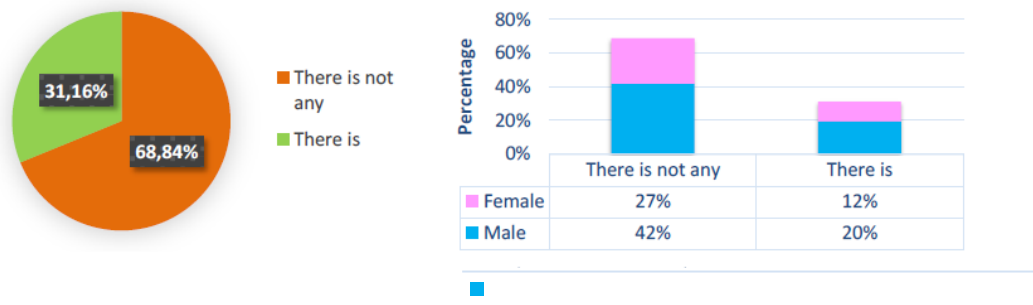


Figure 3-24. Community knowledge of the existence of protected areas

Regarding the presence in the conservation area, the animals/animals found in the protected area, mainly known are Mahakam dolphins (20.2%), sun bears (6.2%), orangutans (6.2%), crocodiles (5.8), birds (4.1%) deer (2.5%) and pangolins (0.4%). The rest of the community stated that they did not know the names of other animals/animals (74.2%).

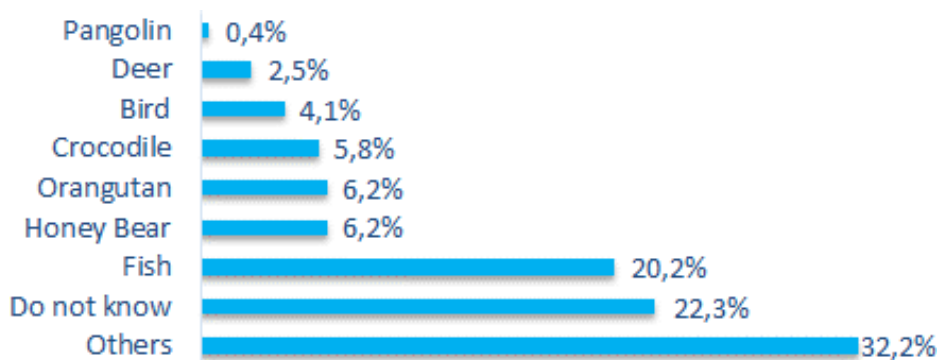


Figure 3-25. Animals found in protected areas known to the community

Other animals/animals found in the protected area (Figure 3-26), are proboscis monkeys, snakes, Mahakam dolphins, snakes, monkeys, wild boars, deer, and monitor lizards (32.2%).

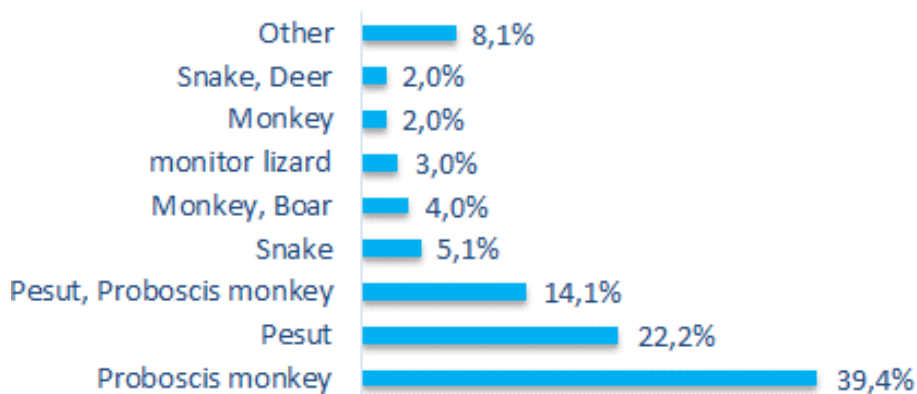


Figure 3-26. Other animals found in protected areas known to the community

For the types of plants found in protected areas, as many as 24.29% of the community recognize the types of plants and most of the rest (75.71%) do not know the types of plants that exist. For people who recognize the types of plants that exist in protected areas, most are aware of forest orchid plants (37.5%), meranti (25.0%), kahoy (12.5%), mangroves (9.4%), challenged (6.3%), lotus, perupuk and ironwood (each 3.1% each).

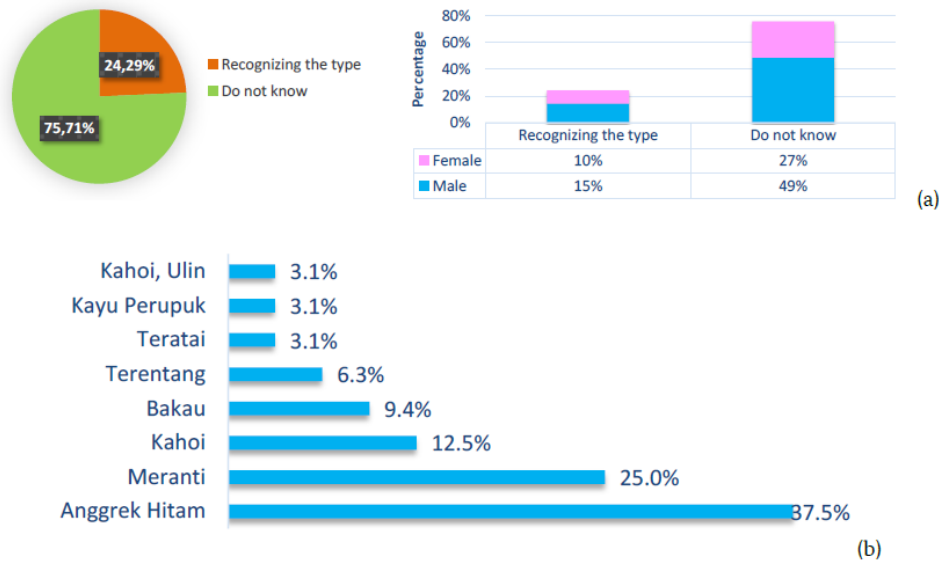


Figure 3-27. Plants found in protected areas known to the community

In terms of the benefits of the conservation area, only 43.45% of the people know about the benefits of the protected area and most (56.55%) do not know the benefits of the conservation area. For people who know the benefits of conservation areas, especially for the protection of rare animals and plants (55.4%), preserving forest ecosystems (21.15%), preventing flooding (7.7%), regional income (6.2%), storing carbon and oxygen reserves (7.7%) and for tourism purposes (1.5%).

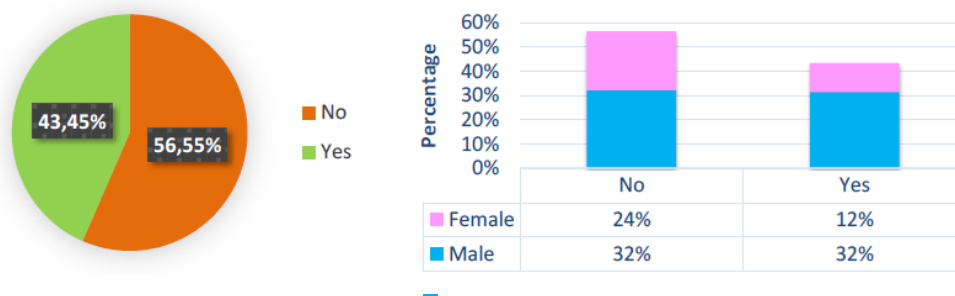


Figure 3-28. Benefits of conservation areas according to the community

Table 3-6. Benefits of conservation areas according to the community

Benefits of conservation areas according to the community	Percentage
Protection of endangered wildlife and plants	55.4%
Preserving the forest ecosystem	21.5%
Prevent flood	7.7%
Regional Income	6.2%
Storing carbon stocks	4.6%
Storing carbon oxygen	3.1%
Tourism purposes	1.5%

Regarding information on protected/conservation areas, most of the community did not follow it specifically or did not receive the information (57.27%), while others (42.73%) had received information about conservation areas.

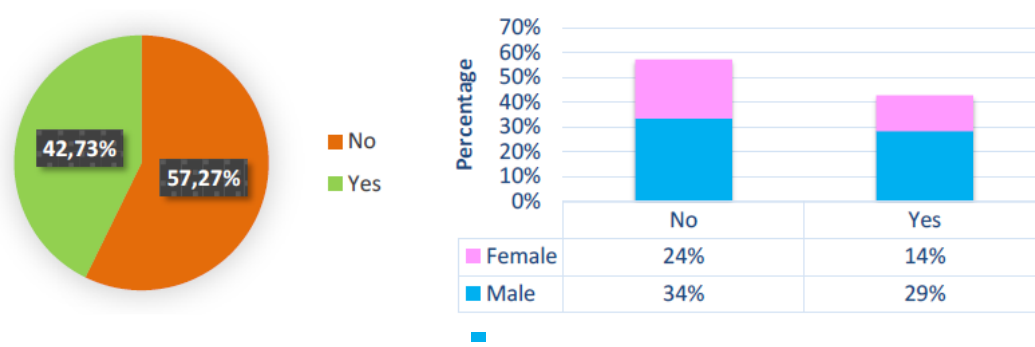


Figure 3-29. Information about protected areas to the community

Especially through the village party (18.56%), community leaders (11.54%), family (9.67%), NGOs (9.53%), television (6.24%), traditional leaders (5.15%) and others (4.21%). Only a few get conservation information from print, electronic media or religious leaders (1.4%).

Table 3-7. Information about protected areas to the community

Information about protected areas to the community	Percentage
Head of Village	18.56
Community leader	11.54
Family	9.67
NGO	9.36
Television	6.24
Traditional leader	5.15
Others	4.21
Newspaper/magazine	0.47
Religious leader	0.31
Radio	0.16

III.2. COMMUNITY PERCEPTIONS AND ATTITUDES REGARDING VILLAGE ENVIRONMENTAL CONDITIONS

Most of the people follow and participate in community activities in the village (86.55%), only a small part (13.45%) do not participate in community activities. The forms of participation included community service/gotong royong in the village (49.2%), organizing village events (20.5%), construction and maintenance of village roads (17.9%), monitoring environmental conditions (7.0%), tree planting (3.3%), arts and culture (1.1%) and others (1.0%)

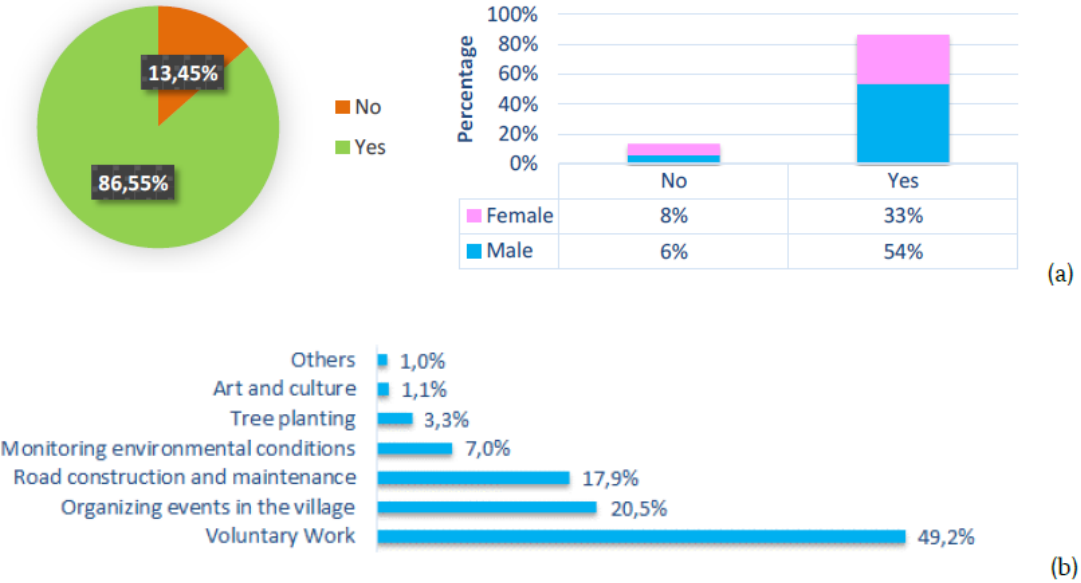


Figure 3-30. Community participation in village activities

Environmental problems that often occur in villages are natural disasters, namely floods (77.5%) and forest fires (7.1%). Major incidents related to flooding were in 2017. Other problems related to illegal logging (3.2%), river pollution (2.4%), garbage/waste (2.2%), decline in fish populations (1.1 %) and others. There are very few cases of land disputes (0.1%).

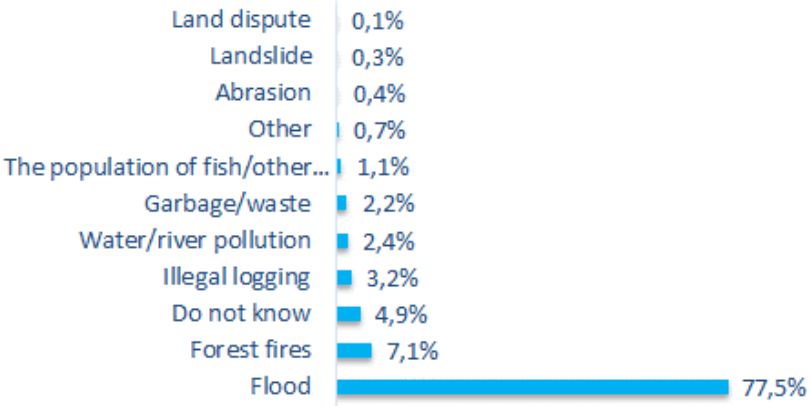


Figure 3-31. Environmental problems that often occur in the village according to the community

However, people assume that natural disasters (floods and forest fires) that occur are natural disasters (56.0%). A small part considers it to be an error from human management/actions (44.0%). The mismanagement includes the destruction of environmental functions such as logging of vegetation or pollution (20.9%), population growth (9.6%), improper management, lack of counseling and others (7.8%).

Table 3-8. The causes of natural disasters according to the community

Value	Percentage
Natural disasters	56.0%
Human actions	20.9%
Population growth	9.6%
Others	7.1%
Poor management	3.9%
Do not know	1.7%
Lack of counseling	0.8%

In general, the village community has known the impact or consequences of the destruction of existing natural resources. This is reflected in the activities that are considered to cause damage to resources, namely poisoning fish/river (38.9%), felling trees (21.0), burning land/forests (18.8%), hunting for wild animals (2.3%) and others such as fish breeding, river pollution, oil palm plantations, coal mining, land conversion and others (7.6%). A small part of the community does not know (11.3%).

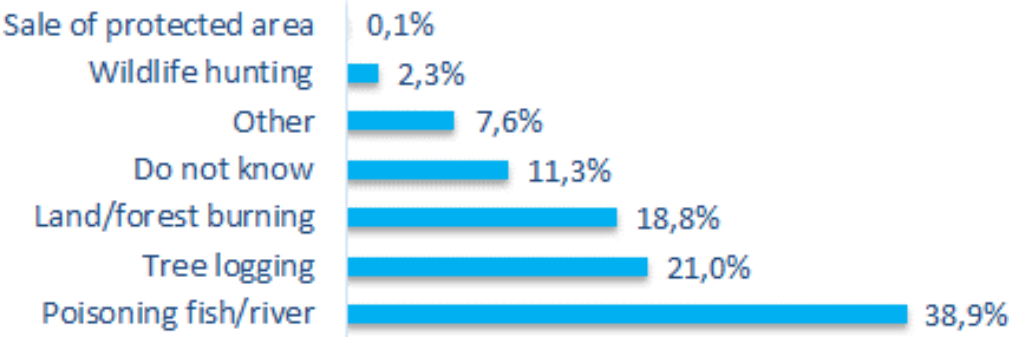


Figure 3-32. Public opinion about activities that can cause damage to natural resources

According to the community, the party most responsible if there is environmental damage is the community that carries out activities that result in damaging the environment itself (34.6%), others argue that it is the responsibility of the local government (31.0%), the central government (14.9%). %, traditional/community leaders (7.8%), companies (5.2%), NGOs (1.2%) and others (1.6%). The remaining 3.8% answered that they did not know.

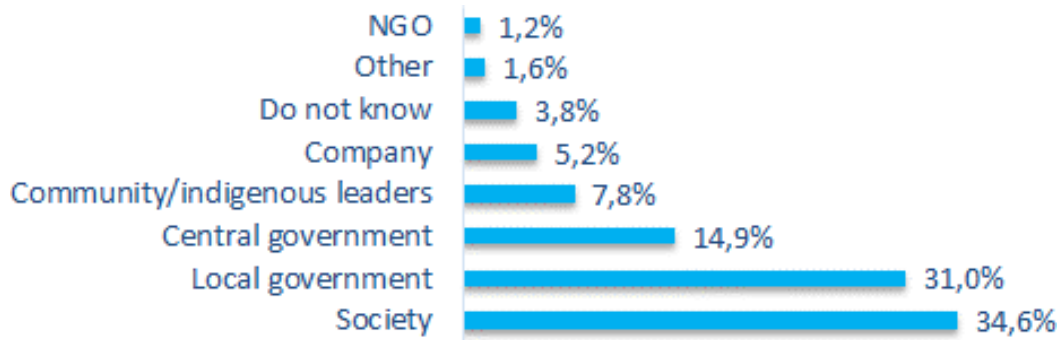


Figure 3-33. Responsible for environmental damage according to the community

Regarding the form of community attention to environmental problems in their village is by participating in environmental improvement activities (64.9%). Others participated by providing information or reports to the authorities if they found problems or problems related to the environment (18.2%). The rest do nothing (apathy) or do not know what to do as their concern for environmental problems (16.9%).

However, the community agrees that if there are any efforts or activities to improve the quality of the environment in the village, almost the entire community is willing to be involved (97.95%). Only 2.05% said they didn't want to be involved.

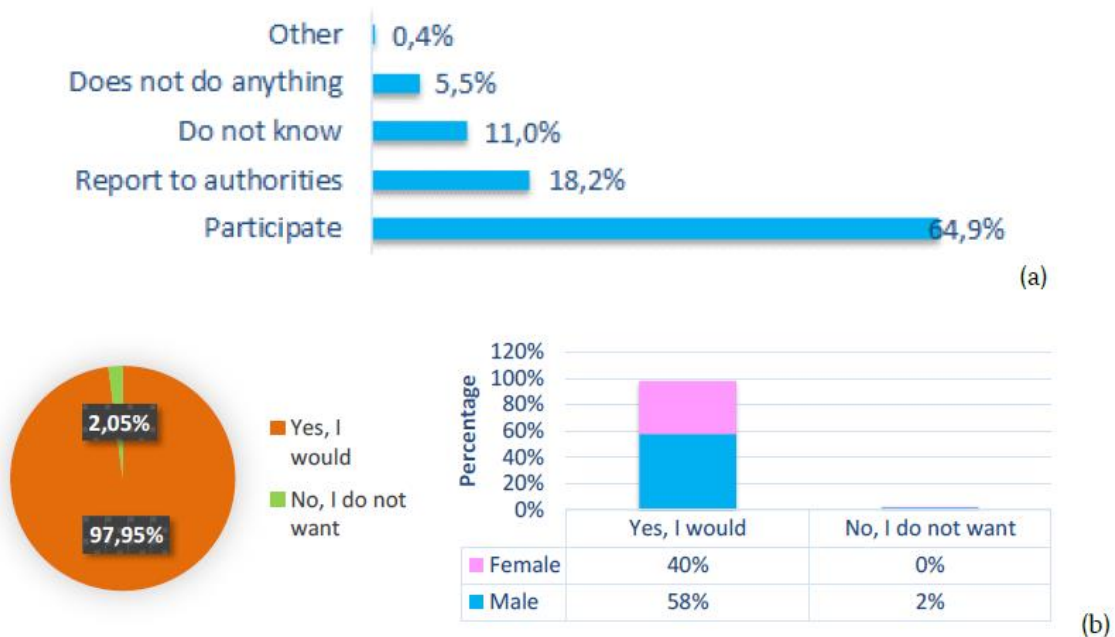


Figure 3-34. Community attention to solve environmental problems

If the government or village authorities make rules or regulations related to the protection of natural resources, the community is willing to comply (99.21%). Only a few do not want to obey (0.79%).

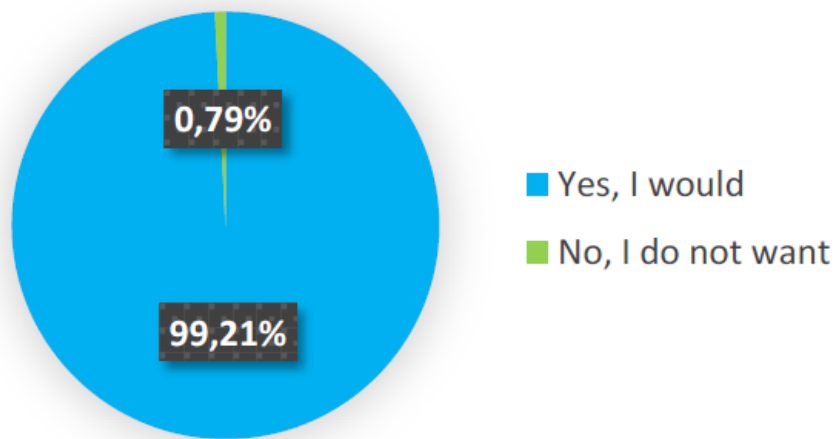
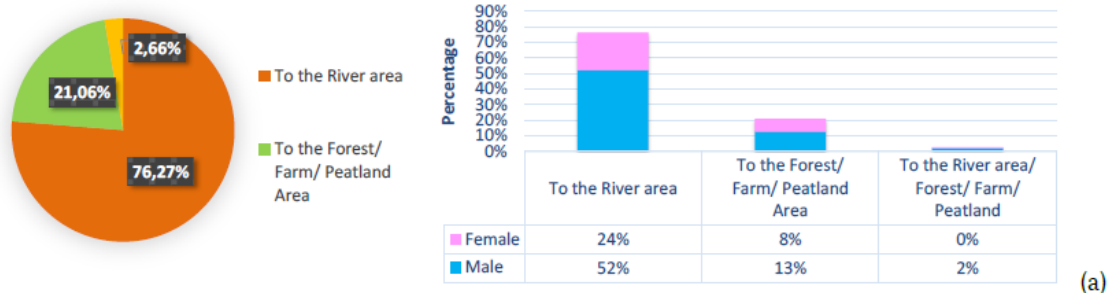


Figure 3-35. Community obedience to the enforcement of environmental protection rules

III.3. UTILIZATION OF RESOURCES IN THE ECONOMY

In utilizing surrounding natural resources to meet economic needs, people generally look for rivers around their homes (76.27%), a small part of them use forests/gardens/land agriculture (21.06%) and a small part of other communities (2.66%)) have mixed livelihoods (to rivers and to forests/gardens/farming).

From this data, it is shown that most of the people live as river fishermen and are very dependent on the existence of rivers.



In addition to economic needs or livelihoods (83.57%), the community also uses rivers for other purposes or activities such as for toilets (9.8%) or a combination of the two (6.63%).

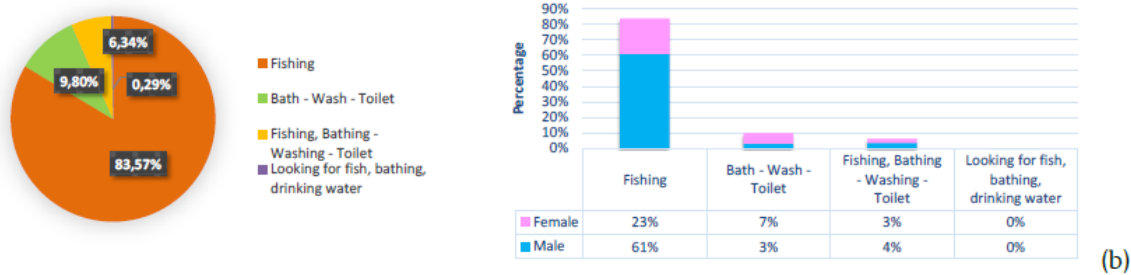


Figure 3-36. Utilization of natural resources for the economic needs and others of the community

In the past week, the average fish catch by the community was 6-25 Kg (37.8%), 1-5 Kg (29.5%) and 26-50 Kg and 51-75 Kg each of 14.4 % public. The remaining 4.0% gained more than 75 Kg. This illustrates that in the community there are variations in types of fishing equipment with an even composition between equipment ownership with low, medium and high categories.

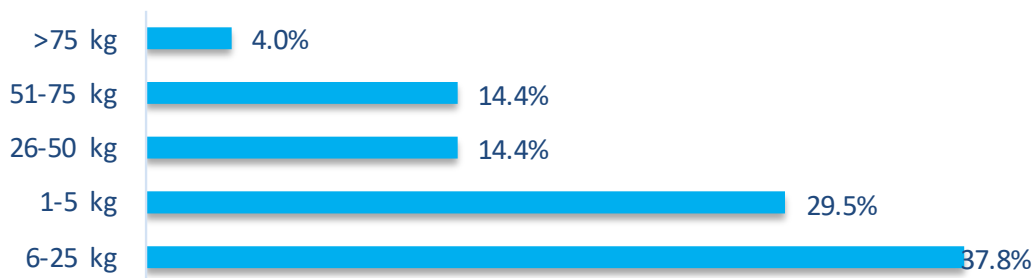
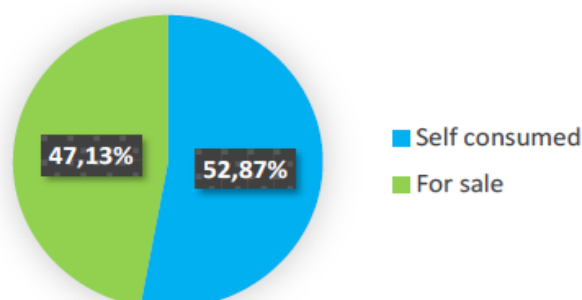


Figure 3-37. Average fish acquisition of the community

The results of catching fish in the river are for some people for sale (52.87%), others (47.13%) are used for their own consumption. The average distance from fishing locations to where they live is mostly around their residence with a distance of less than 250 meters (60.5%) and a distance of 250-500 meters (10.6%). For longer distances, namely 500 m – 1Km as much as 8.8%, 1-3 KM as much as 2.1% and long distances 3 – 7 Km as much as 17.1% and those looking for fish more than 7 Km are 0.9 %.

The distance to find or catch fish depends on the ownership of the type of fishing gear where longer distances require more sophisticated and higher fishing gear. This is of course directly proportional to the catch obtained.



(a)

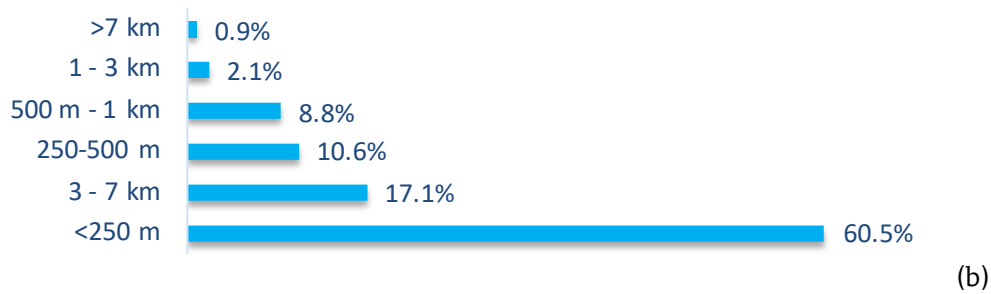
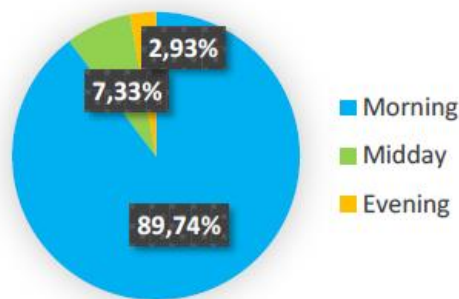
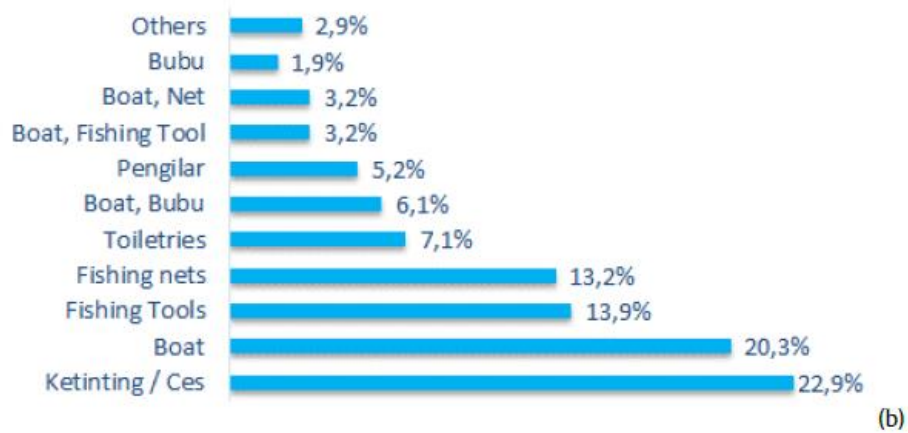


Figure 3-38. Utilization of fish catches and distance of fishing location from home (b)

The duration of time to go to the river is every day, generally leaving in the morning (8.974% and afternoon/evening (7.33%) Only a few fishermen catch fish at night (2.93%), The types of equipment used are presented in the following Figure 3-40.



(a)



(b)

Figure 3-39. Fishing time and equipment used by the community

For people with livelihoods on land (forest/garden/rice fields), the activities carried out are gardening (33.1%), rice farming (23.0%) and farming other plant products (25.9%). There are also people who raise livestock in small numbers (0.7%) as presented in Table 3-7.

Table 3-9. Farming community activities

Value	Percentage
Gardening	33.1%
Rice Farming	23.0%
Vegetable farming	25.9%
Livestock	0.7%

The average distance from the location of the forest/garden/rice field with the place of residence is mostly around the place of residence with a distance of less than 1Km (56.10%). Some others with a distance of 1-2 Km as much as 25.20%, and more than 2 Km as much as 18.7%.

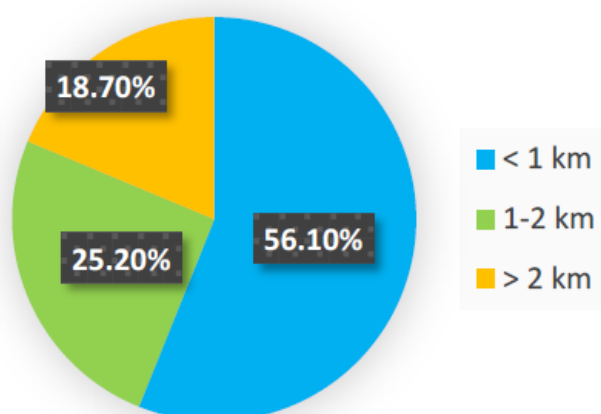


Figure 3-40. The distance of the community's farming location from the house

In terms of the area of gardens owned by the community, most of them have land with an area of less than 1 ha (62.18%). Others have land with an area of 1-2 Ha (31.93%) and a small part has a fairly large area of more than 2 Ha (5.88%).

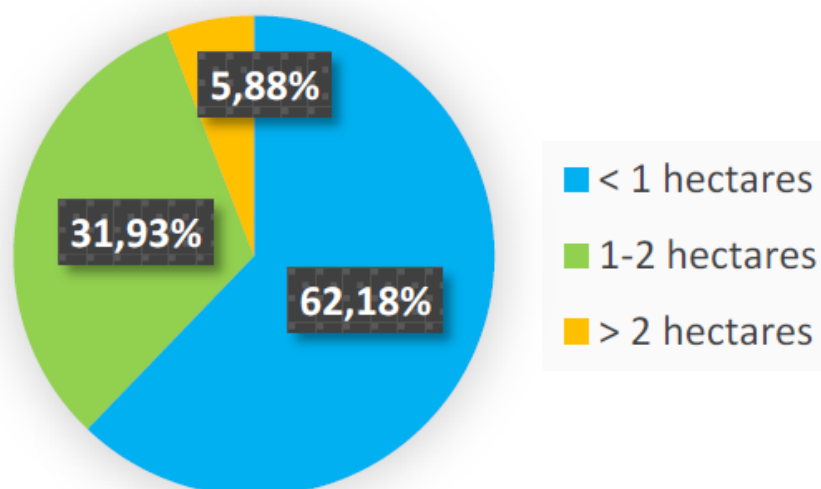


Figure 3-41. The area of agricultural land owned by the community

With this land area, the food products grown in the garden are rice, corn and oil palm. The average agricultural yield for rice commodities is 3 tons per hectare once harvested. For corn, the yield is 1 ton per hectare once harvested and for palm oil the yield is 11 tons per hectare.

III.4. SOCIAL CONDITIONS

The tradition of gotong royong or mutual assistance is still quite strong in all surveyed villages. The same applies to the habit of helping residents if there are residents who have financial difficulties. A total of 46.93% of the community stated that they had helped, 23.94% of the community stated that they did not know if there were villagers who lacked finances.

Furthermore, a total of 16.69% of residents stated that they always help if there are residents who have difficulty. As many as 0.31% of residents stated that there were villagers who had financial difficulties. The rest, namely 12.13% of residents said they had never helped other residents who had financial difficulties.

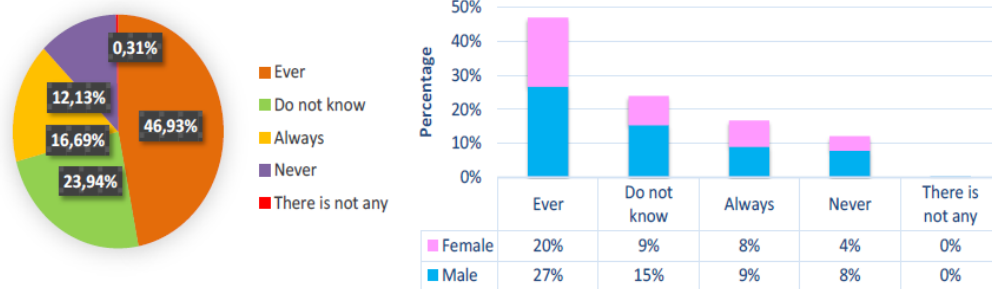


Figure 3-42. The tradition of helping each other in community

Viewed from the level of trust among residents as a whole, most of the residents trust each other (78.04%). In fact, a total of 21.17% of residents stated that they really trusted each other. Only 0.79% of citizens are individualists who do not trust other residents.

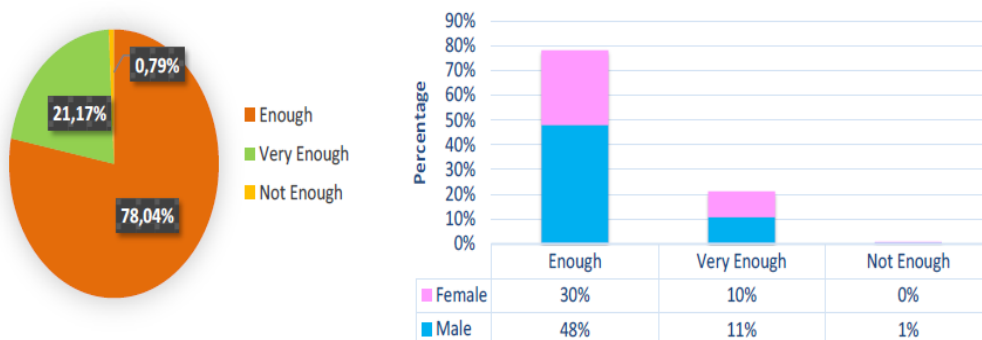


Figure 3-43. Level of trust between communities in the village

This is directly proportional to the incidence of conflict between residents in the village. According to 92.21 people, there has never been a conflict between residents. Conflict incidents were reported by 6.20% of residents, but their intensity was rare. Only 1.59% of residents stated that conflicts between residents often occur in the village.

Generally, conflict incidents are caused by the problem of stealing swallow's nests, personal conflicts between residents, electricizing fish in rivers and others (political issues, land conflicts and conflicts due to alcohol).

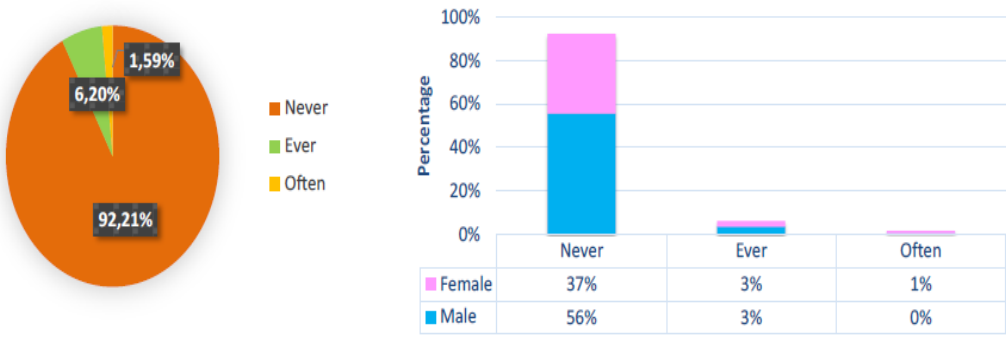


Figure 3-44. Conflict between communities in the village

Conflict resolution is mainly carried out through deliberation mechanisms, whether it be deliberation between the disputing parties (55.8%), deliberations facilitated by RT/RW (21.9%), deliberation at the village level (15.9%), as well as deliberation between customary head as mediator (2.7%).

Only a small number of conflict resolutions were resolved through legal or other means, namely 3.8% of community conflicts.

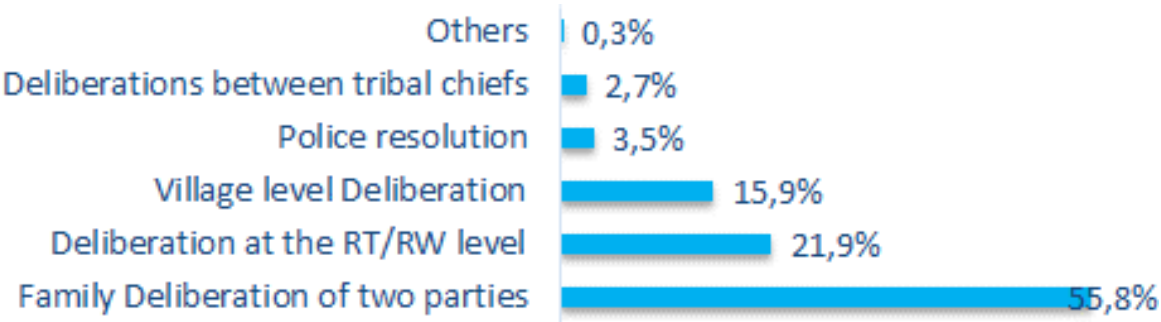


Figure 3-45. Conflict resolution in the village

III.5. VILLAGE INSTITUTIONS AND INFRASTRUCTURE

In terms of community opinion about village institutions, most (77.8%) stated that village institutions were generally still active and a small proportion stated that many village institutions were less active (22.24%).

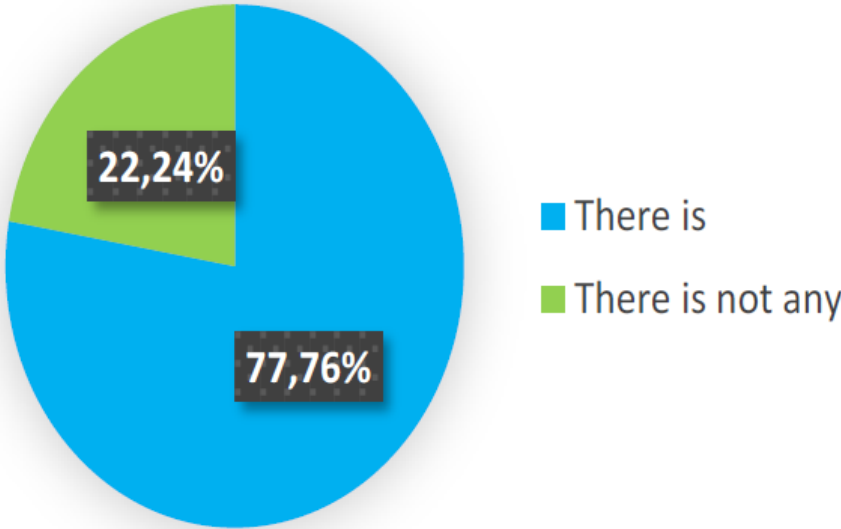


Figure 3-46. Community opinion about village institutions

The active village institutions are PKK (27.1%), youth organizations (15.6%), fishermen groups (11.5%), traditional institutions, BPD and posyandu each 7.3%, LPM and farmer groups each 6.3%, LPHD 3.1% and others 8.3%.

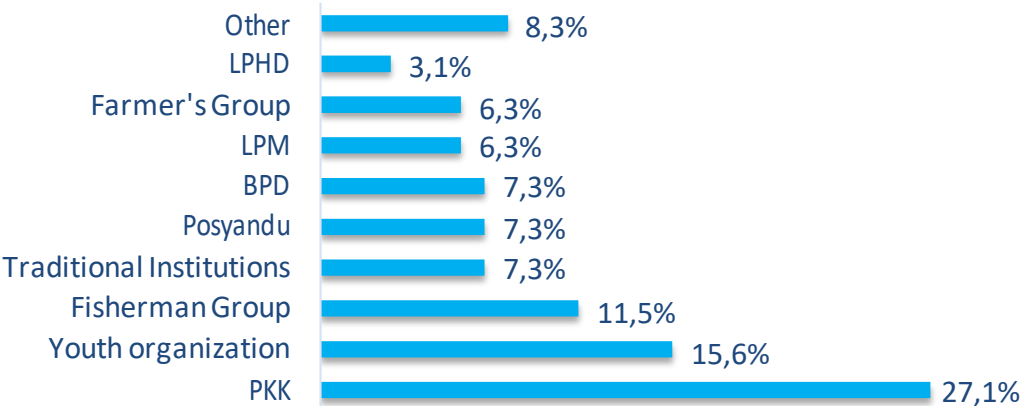


Figure 3-47. Type of village institution

Regarding educational facilities, in the surveyed villages, educational facilities are available from Elementary School/equivalent to Senior High School/equivalent. As for the tertiary level, it is not yet available so that villagers who take higher education will take it outside the village.

For health facilities, a total of 90.03% of the community stated that they knew and used health facilities in their village. Only a small proportion have never used it (9.97%). The health facilities used are pustu, puskesmas, posyandu, clinics and others as presented in Table 8.

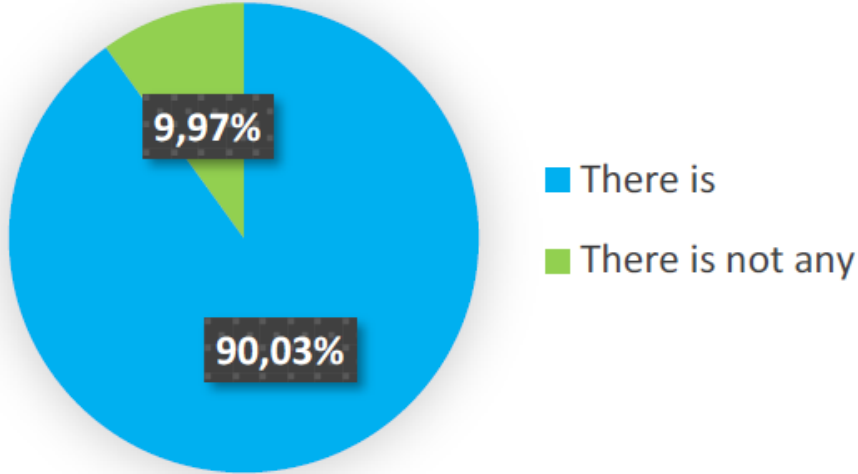


Figure 3-48. Use of health facilities according to public opinion

With regard to the condition of the infrastructure of the village roads, village halls, schools, health centers), the majority of the community stated that the condition of the infrastructure was good (58.0%), even 2.4% said it was very good.

Table 3-10. Types of health Facilities

Types of health Facilities	Percentage
Pustu	47.8%
Puskesmas	31.0%
Posyandu	18.1%
Drugstore	1.8%
Clinic	0.9%
Mantri, Midwife	0.4%

The rest stated that the condition of infrastructure was normal (24.4%), less and not good (13.8%) and did not know 1.3%

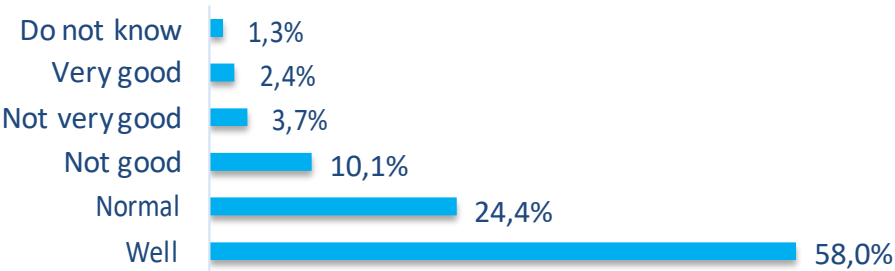


Figure 3-49. Condition of village infrastructure according to community opinion

III.6. VILLAGE ENERGY

To fulfill the need for electrical energy, most of the villagers use electricity provided by PLN with a subscription (63.4%). Others use a common diesel engine (26.8%). A small proportion use solar power plant (7.4%) and others such as private generators or biogas assistance from the company (2.4%).

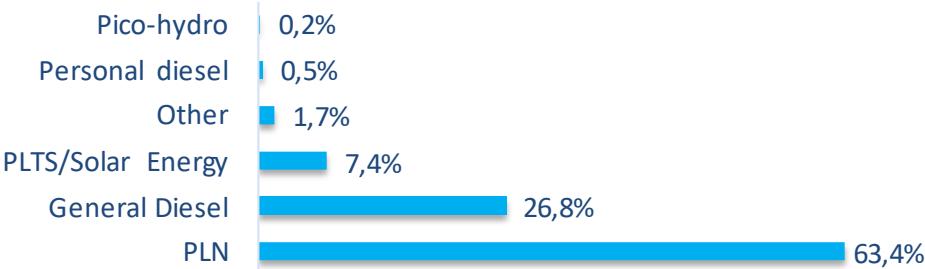


Figure 3-50. The community's electrical energy needs

The average cost incurred by the head of a family for electricity needs is around Rp. 500,000-1,000,000 per month (50.0%). Others pay a lower cost for electricity, which is Rp. 100,000-200,000 per month (33.3%) and Rp. 200,000-3,000,000 per month (16.7%).

Furthermore, in terms of community satisfaction with the use of electrical energy, most (74.4%) stated they were satisfied, and a number of 25.6% said they were not satisfied. Dissatisfaction is mainly due to the very limited power-on time and power capacity.

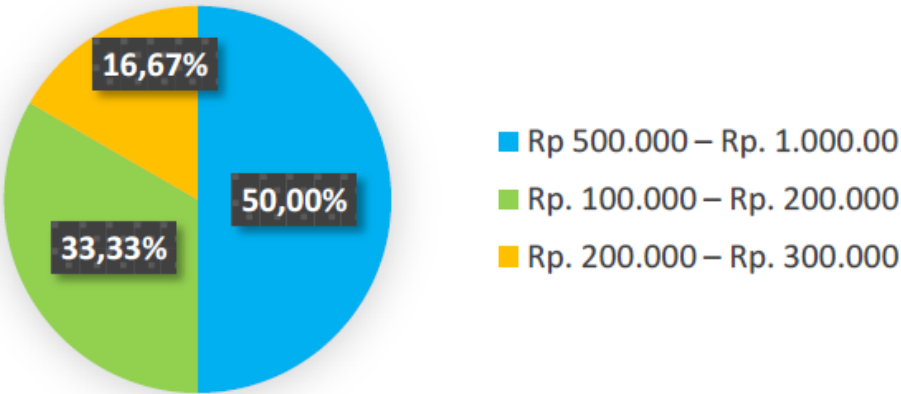


Figure 3-51. Community costs for electricity

III.7. COMPANIES, MINES AND PLANTATIONS AROUND THE VILLAGE

There are several plantation and coal mining companies in some of the villages surveyed. The community is almost entirely aware of the existence of the company. The presence of oil palm and coal mining companies in several villages has an impact on the lives of rural local communities, including

through the assistance provided by the company. According to the villagers surveyed, they stated that company assistance to village communities was often done (16.33%), rarely (7.3%) and never done (76.33%).

The answer from the community that they have never received assistance from the company seems to be that the company is not in their village. When confirmed with the company, the company stated that it periodically provided assistance to village communities in the form of assistance with facilities and basic materials.

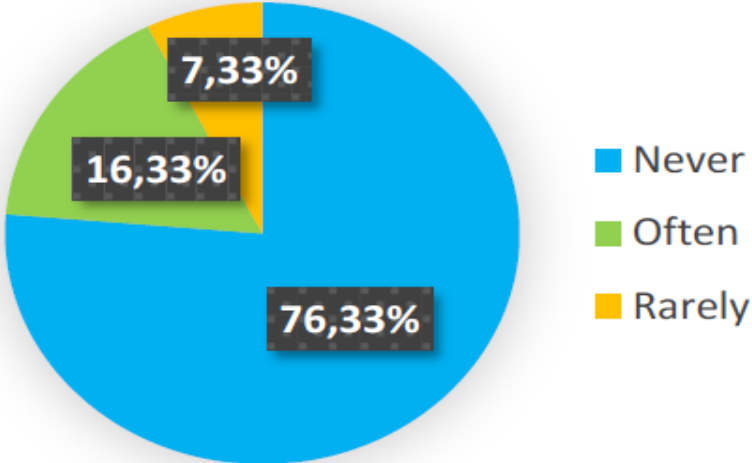


Figure 3-52. Community opinion about the company's assistance to the community

III.8. TRAINING COMMUNITY

A small part of the community (26.81%) have received training in certain fields of knowledge conducted by the government (department and village) or NGOs in at least the last 5 years. The training themes included Mahakam dolphin conservation, aquaculture training, post-harvest fish processing and training on agriculture and forestry themes.

Some communities have also received training in sewing, computers and training in livestock cultivation. Meanwhile, a large number of others have never received training (73.19%).

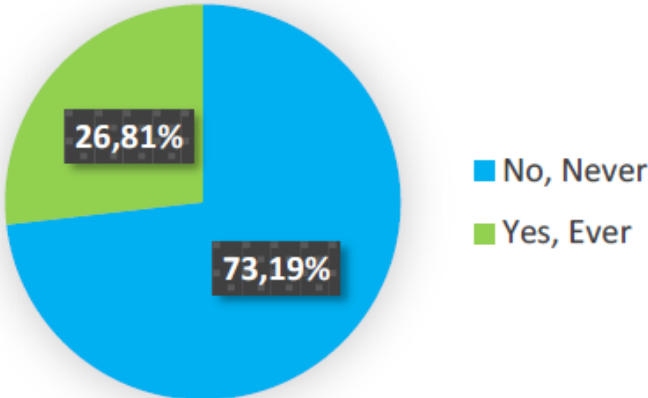


Figure 3-53. Community opinion about training activity from external institution

In terms of improving the family's economy, if they get the opportunity to get training in the next time, the community wants training related to aquaculture (24.4%). Furthermore, the desired training themes are entrepreneurship (17.9%), agricultural cultivation (16.7%), community empowerment (15.4%), professional expertise (10.3%), post-harvest fisheries (6.4%) and plantation cultivation (3.8%).

Table 3-11. The type of training that the community needs

The type of training that the community needs	Percentage
Perikanan	24.4%
Kewirausahaan	17.9%
Pertanian	16.7%
Pemberdayaan masyarakat	15.4%
Keahlian profesi	10.3%
Pascapanen perikanan	6.4%
Perkebunan	3.8%

The most effective form of training in some communities is hands-on practice (65%) with practical examples to do. The form of one-way or two-way training is less desirable (18.7%).

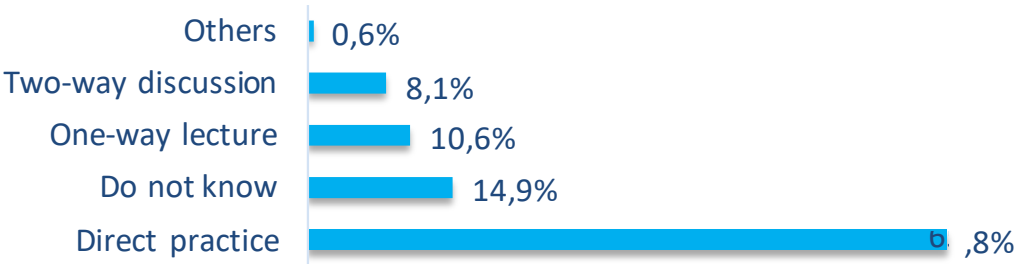


Figure 3-54. the community's preferred method of training

For the dissemination of information, the most preferred by the community is the lecture/face-to-face pattern (22.6%) and local arts and cultural performances (10.4%), posters (8.5%) and film/screen tancap (5.5%). Meanwhile, information in the form of posters, books, radio is not received much attention.

The most effective form of training in some communities is hands-on practice (65%) with practical examples to be carried out. The form of one-way or two-way training is less desirable (18.7%)

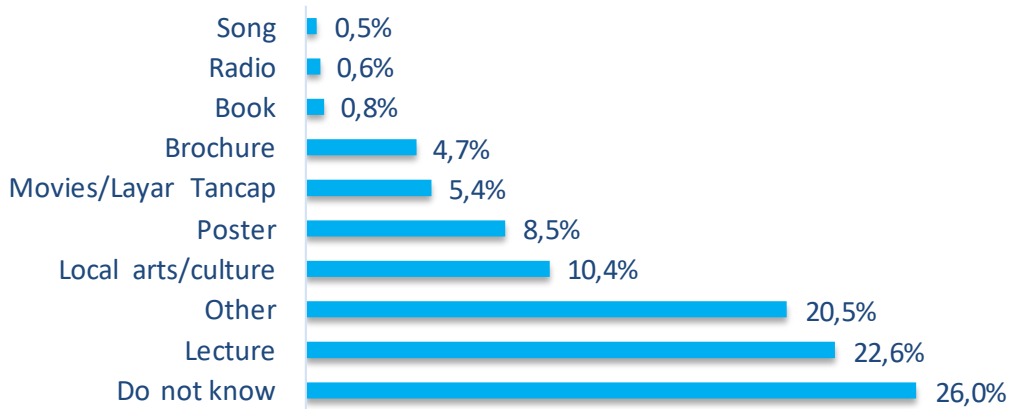


Figure 3-55. The community's preferred method of dissemination of information

III.9. COMMUNITY PERCEPTION OF TOURISM

Some villages have tourism objects, even tourists from abroad are interested in the icon of the Pesut Mahakam which is a rare and protected animal. Related to this, a total of 25.76% of the public know that there are tourist attractions of interest in Pela Village, Semayang Lake, Kenohan Lake, Orchid Forest and other locations.

However, most people do not realize that these objects can be developed from the tourism sector.

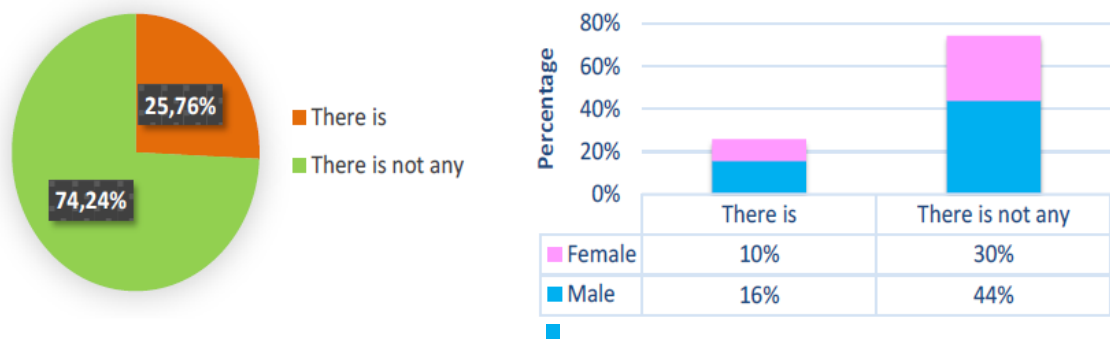


Figure 3-56. Public opinion about the existence of tourism objects in the village

Most people do not understand well about tourism management in some of the above locations so they do not yet have an opinion about the direction of tourism management in the future (78.64%). However, a small part of the community has understood the prospect of tourism development (21.36%) and stated that this was a good thing.

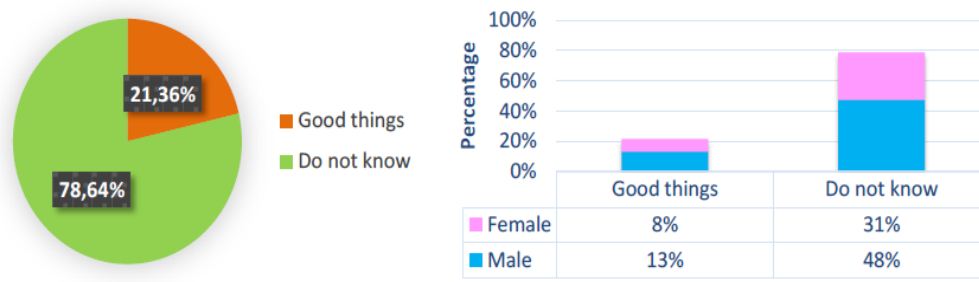


Figure 3-57. Community understanding of village tourism activities

The good benefits of tourism development according to the community are because it brings community and village income with tourist visits (60%), makes the village more known in the outside world (12.0%), encourages and accelerates village infrastructure development (10.0%) and open community employment and improve the village economy (10.0%).

Some people also think that tourism development is the pride of the village (4.0%) and can strengthen the conservation of natural resources and the environment (4.0%).

Table 3-12. The benefits of tourism activities in the opinion of the community

The benefits of tourism activities	Percentage
Village Income Source	45.0%
Attracting outsiders to visit the village	15.0%
Making the village more recognizable	12.0%
Making the village more recognizable	10.0%
Creating job opportunities for local people	5.0%
Promote the village economy	5.0%
Pride for the villagers	4.0%
Nature conservation activities are more secure	4.0%

The community also has the view that tourism objects have been managed properly (66.67%) in villages where there is tourism potential, some others (33.3%) stated that tourism objects have not been managed properly. The community is also satisfied with the current tourism management (69.87%). Another 30.13% felt unsatisfied because the management still had to be improved.

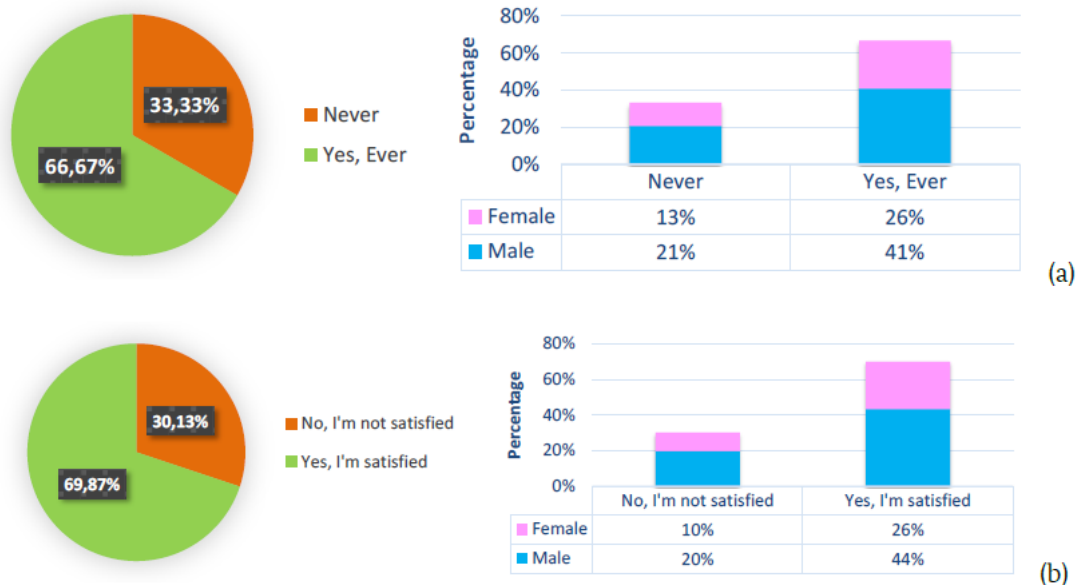


Figure 3-58. Level of community satisfaction with village tourism management

III.10. COMMUNITY PERCEPTION OF WILDLIFE DISTURBANCE

Most of the people (74.0%) have never experienced disturbances caused by wild animals, but a small part of other village communities also experiences wildlife disturbances every day (11.6%), uncertain times (8.7%) and a small proportion of the disorder incidentally whether a week, a month, three months or once a year.

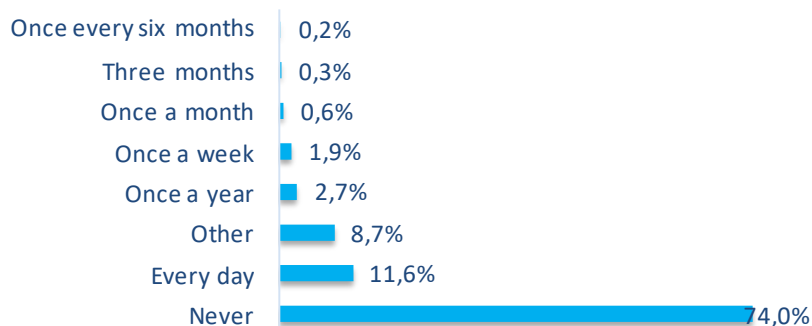


Figure 3-59. Wildlife disturbance in the community

Animals that disturb the community include wild boars that destroy gardens (36.1%), monkeys that damage gardens (23.1%), snakes that prey on livestock (1.6%) and others such as rats, crocodiles, monitor lizards, and beavers (39.2%).

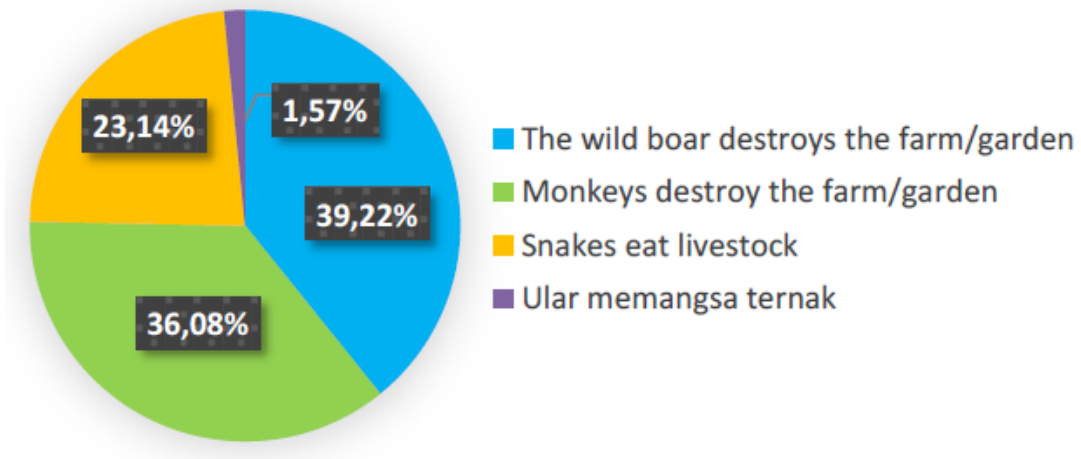


Figure 3-60. Types of wildlife that often disturb

III.11. COMMUNITY PERCEPTIONS AND ATTITUDES REGARDING PEAT PROTECTED AREAS

If people were asked about peat as a protected forest, a total of 56.87% of the community had not or had never heard of it. Only 43.13% have heard of it. People are more interested in the type of forest and not the type of soil. Generally, people refer to it as swamp forest, protected forest, wetlands and so on.

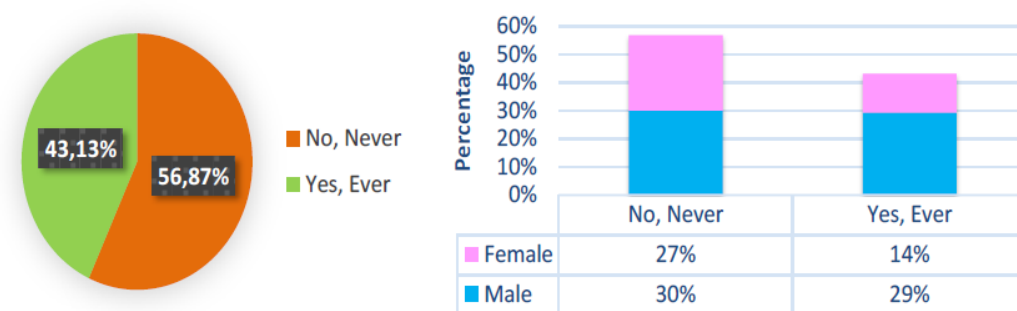


Figure 3-61. Community perception of peat protected forest

For people who know about peat protected forests, most (23.1%) know about it from the village (village head or village staff), some 19.7% know from NGOs, 18.4% know from community leaders/leaders, 15% know about from the family, 7.9% knew from traditional leaders/leaders, 4.2% knew from the company and a few others (2.8%) knew from newspapers/print media, television and religious leaders.

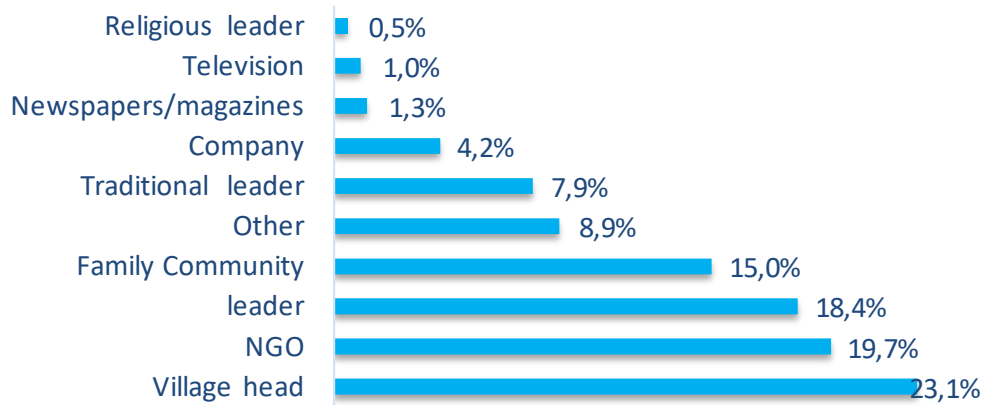


Figure 3-62. Source of community information about peat

Due to the limited information about peat in the village community, even related to peat management, the community does not yet have an idea about its management so that when asked about their interest in being actively involved in peat management if it is implemented in the village, the community does not know or cannot plan their involvement in the future (98,73 %) only a small part expressed interest (0.85%) and not interested (0.42%).

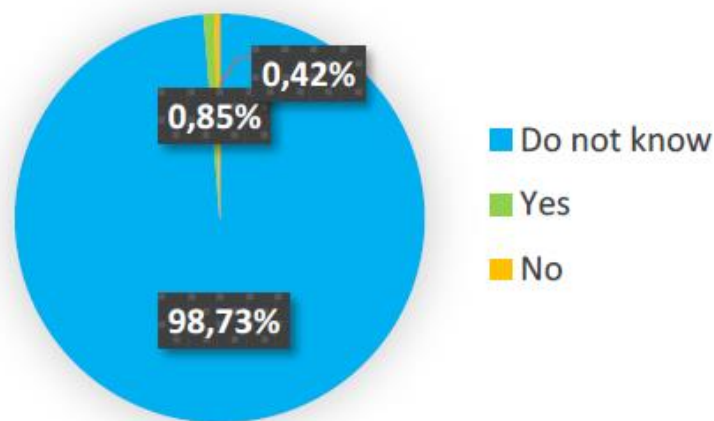


Figure 3-63. Community knowledge about peat management

The most appropriate and appropriate activities for managing natural resources or economic development in the village according to the community are aquaculture (31.5%), agricultural development (18.6%), entrepreneurial development (9.0%), development infrastructure (7.4%), skills development (6.4%), plantation cultivation (6.4%), tourism development (6.1%), local product industry development (4.5%), handicraft industry. Hands (2.9%), natural resource management (2.6%) and others (4.5%)

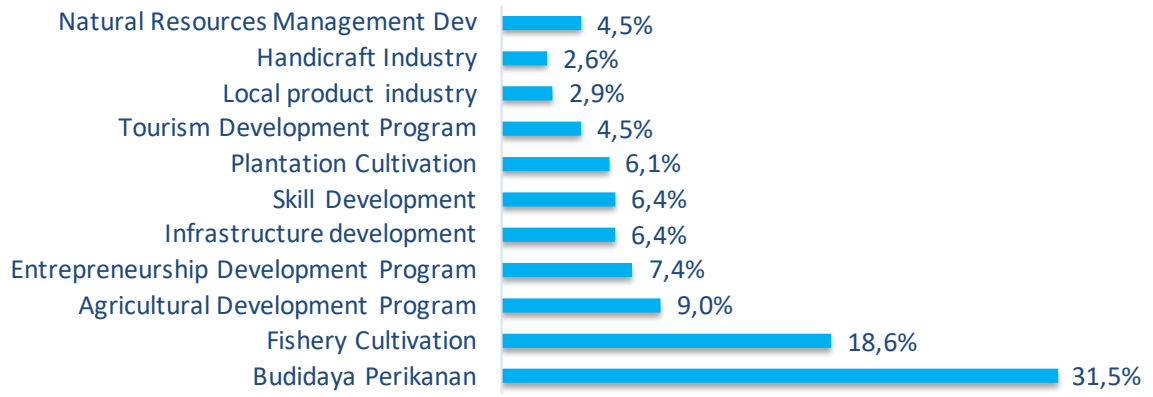


Figure 3-64. Community preferences for future peat management

CHAPTER IV: GENDER ROLES ON PEATLAND MANAGEMENT

IV.1. GENERAL CONTEXT

Women and men interact with natural resources including peatland in different ways according to their socially assigned gender roles, and thus have different knowledge, needs and perspectives. Although women may use and manage certain natural resources more than men, their roles are often less visible and they are less involved in decision making, both generally and in relation to natural resources management.

The root cause of these gender-based discriminations lies in social norm, attitudes and beliefs, which shape how women and men are expected to behave the opportunities that are offered to them and the aspirations they can pursue⁵. Meanwhile some research has shown that women's active participation in natural resources management leads to better outcomes and a result of sticker rule making and compliance, greater transparency and accountability as well as greater participation and representation and more equitable benefit from the project interventions.

Gender issues in peatland forest governance is one of the important development issues, because peatland forestry management is not gender neutral. There are several problems such as gender-based segregation in the division of labor in peatland forest management, as well as the minimal contribution of women's work due to the limited space, access, and control of women in decision making.

Women's knowledge of forests, species diversity, management and use for various purposes including conservation practices is evidence of women's knowledge and contribution which together with men's knowledge shape community knowledge of forests and natural resources. Encouraging women's involvement and leadership in peatland forest governance has positive and reaching benefits, not only for women but also for the wider community and society⁶.

Complementing the NESP method used for the socio-economic study, a gender assessment was carried out in the preparation of the GIZ PROPEAT project in East Kalimantan to ensure that gender aspects can be integrated into project planning and implementation of peat ecosystem protection and sustainable management

This study was conducted using several data collection methods. A series of literature reviews was carried out to present an analysis of the situation and gender context in 3 regencies in East Kalimantan Province. This includes aspects of geography and demography, social, economic and culture, status and conditions of the development index that describes the different conditions between women and men.

Collecting data from the field was carried out through a series of semi-structured Focused Group Discussions (FGD) with women's and men's groups, social-gender and economic survey analysis, and random interview with several people who were met on the way to the survey village location. There is a series of analytical tools used to answer a series of questions, related to daily activities, access

⁵ FAO. 2020. FAO Policy on Gender Equality 2020- 2030. <http://www.fao.org/3/cb1583en/cb1583en.pdf>

⁶ Pengarusutamaan Gender dalam Tatakelola Sumberdaya Alam: Irisiasi Kelompok Perempuan dalam Pengelolaan Lahan Gambut. Program Mitigasi Berbasis Lahan-ICCTF. Juli 2018

/participation/control over resources, seasonal calendars, and value chains.

There are a minimum of two (2) FGDs conducted in each village, and it was 5 villages out of 22 agreed with GIZ to carry out the FGD. This village was selected with the following criteria: representative from each sub district and represents the main landscape area namely deep peatland area, medium peatland area and surrounding the peatland area.

However due to challenges encountered during the study process, including the absence of a contact person (e.g. GIZ's Field Facilitator) who has local information and understands the situation of the survey location who can be contacted to assist in the preparation of the activities, as well as the challenge of obtaining travel information (car rental) that can assist the process of reaching the location with timely manner, so that only 4 out of 5 villages carried out FGD activities.

Due to the above challenges, this FGD activity became more pre-FGD in nature, because the participants did not know us as facilitators, so it took extra time to build trust in providing the information needed. This also affected the representation of the community who participated in the FGD, which was relatively biased towards close relationship with village officials.

There are 44 women and 38 men has been participated in the FGDs. Work background of the participants are fresh water fishermen's (River and Lake), farmers, salted fish worker, fish seller, handicraft (sraung and rumbia roof), selling the cookies/snack around the village, village staff and volunteer for Posyandu activity. They live depending on the existence of the Peatland Ecosystem, both as a source of food, energy and other raw materials for the crafts they make.

Below is a list of villages, which FGDs were organized with the relevant community, involving women and men, while the list of names of FGD participants can be seen in the appendix 1.

Table 3-13. List of villages, which FGDs were organized

Name of Village, Sub-District and Regency (District)	Women's FGD	Men's FGD
Muara Kaman Ulu Village, Muara Kaman Sub-District, Kutai Kartanegara	11 people	12 people
Pela Village, Kota Bangun Sub-District, Kutai Kertanegara	7 people	10 people
Kehala Village, Kenohan Sub-District, Kutai Kartanegara	1 people	1 people
Minta Village, Penyinggahan Sub-District, West Kutai	17 people	9 people
Sinyiur Village, Muara Ancalong Sub-District, East Kutai	8 people	6 people

Source: Recapitulation of FGDs participants for the Gender Assessment GIZ PROPEAT Project in East Kalimantan, October 2021.

IV.2. LOCATION CONTEXT

East Kalimantan is one of the provinces in Indonesia located on the island of Kalimantan with a population of about 3.4 million people, of which 47.91% are women. The area is approximately 13.0 million hectares, of which 9.5 million hectares are forest and 0.3 million hectares are peat land⁷.

⁷ Indonesian National Carbon Accounting System: Kalimantan Timur. <http://incas.menlhk.go.id/id/data/east-kalimantan/>

There is 9 years after the issuance of Governor Regulation No. 61 of 2012 concerning the Implementation of Gender Mainstreaming in Regional Development Planning of East Kalimantan Province, which was followed by the issuance of a copy of the East Kalimantan Provincial Regulation No. 2 of 2016 concerning Gender Mainstreaming in Regional Development, the status of gender equality in East Kalimantan Province is still considered low⁸.

This can be seen from the Gender Development Index (GDI)⁹ which reached 85.70, which was below the national achievement of 91.06 and the Gender Empowerment Index (GEM)¹⁰ which reached 65.54 below the national achievement of 75.57. Meanwhile, the percentage of women's income in the national level reached 37.26 while in East Kalimantan it reached 24.17.

Although the Human Development Index (HDI) of East Kalimantan is in the top 3rd position in Indonesia after DKI Jakarta and DI Yogyakarta provinces, East Kalimantan's GDI and GEM are still in the 3rd lowest position in Indonesia. One of the causes of the high gender inequality or inequality is due to still weak understanding of gender issues, especially among the apparatus and activity planners, causing the budgeting of development activities programs to not fully identify and integrate gender issues into it.

Including the lack of recognition from various parties for women's economic efforts/businesses which are still categorized as informal work, so that the contribution of women's income is still largely unrecorded and undervalued.

Table 3-14. Gender Based Parameter in Development¹¹

Index/Parameter Gender Based Development	Y2018	Y2019	Y2020 ¹²
National			
GDI	90,99	91,07	91,06
GEM	72,10	75,24	75,57
Percentage (%) contribution of women's national income 2010–2020	36,70	37,10	37,26
East Kalimantan			
GDI	85,63	85,98	85,70
GEM	57,53	65,65	65,54
Percentage (%) contribution of women's regional income 2010–2020	23,64	24,06	24,17

Meanwhile, until June 2021, the number of complaints against violence against women and children in East Kalimantan reached 1,386 cases¹³. Most of these cases are of the type of domestic

⁸ <https://www.merdeka.com/peristiwa/ketimpangan-gender-masih-terjadi-di-kaltim.html>. January 2021. Downloaded at September 30th, 2021.

⁹ Gender Development Index (GDI) is an aggregate of Health Status (life expectancy), Education (expected years of schooling), and Economy (per capita expenditure)

¹⁰ Gender Empowerment Measure/Index (GEM) is an Aggregate of Women's Participation in Politics, Economics and Women's Income Contribution

¹¹ <https://www.bps.go.id/indicator/40/463/1/indeks-pembangunan-gender-ipg-.html>. Downloaded at October 6th, 2021

¹³ <https://www.antaraneews.com/berita/2213410/kekerasan-perempuan-dan-anak-kaltim-mencapai-1386-aduan>

violence. Especially during the Covid-19 pandemic, it was reported that in the last 5 months until June 2021, 300¹⁴ cases of domestic violence were reported.

At the districts level, policies related to Gender Mainstreaming in development exist only in the Kutai Kartanegara Regency with the issuance of Regional Regulation Number 22 of 2016 concerning Gender Mainstreaming in Development in Kutai Kartanegara Regency. Meanwhile, in the East Kutai Regency, the gender development policy is enshrined in the East Kutai Regent's Regulation No. 43 of 2013 concerning Gender Mainstreaming in the East Kutai Regency.

While, in the West Kutai Regency, there is no identified policy basis related to gender mainstreaming in development in the West Kutai Regency.

However, it is noted that the Gender Development Index level in West Kutai Regency is the highest compared to East Kutai Regency and Kutai Kartanegara Regency as shown in Table 3-13 below:

Table 3-15. Gender Based Parameter in Development at Kutai Kartanegara, East Timur and West Kutai Regencies

Index/Parameter Gender Based Development at regency level	Y-2019		Y-2020		Percentage (%) contribution of women's income 2019
	GDI	GEM	GDI	GEM	
Kutai Kartanegara	79,14	63,73	78,90	61,43	24,64
Kutai Timur	75,51	56,35	76,26	53,77	17,77
Kutai Barat	83,84	61,14	83,87	60,60	26,28

Source: Central Bureau of Statistics (BPS) of East Kalimantan Province, Y2020

Referring to the data above, it can be illustrated that development in Kutai Barat Regency is more concerned with gender-based needs and has an impact on reducing the existing gender gap. Table 3-13 above also illustrates that although regional policies related to Gender Mainstreaming as legal umbrellas that can ensure the existence of a gender integration strategy into development and budgeting, the more important thing to break down gender gaps in the region is the seriousness of the implementation of its activities.

Of course, this is very dependent on the understanding of gender among local government staffs as development organizers as well as the leadership that supports gender responsive programs. In detail, let's see how the status of gender-based development in each district is as follows:

IV.2.1. Kutai Kartanegara Regency¹⁵

Kutai Kartanegara welfare statistics in 2020 state that with a population of 729,382 people, the productive age group (15-64 years) for males is 68.80% and females 67.67%. This shows that the potential for economic income from women is equal to men. However in fact when viewed the percentage of women's income contribution in 2019 in Kutai Kartanegara it only reached 24.64%, or less than half of women of productive age in Kutai Kartanegara Regency is vulnerable to poverty.

¹⁴ <https://www.merdeka.com/peristiwa/5-bulan-ada-300-kasus-kekerasan-terhadap-perempuan-anak-di-kaltim-samarinda-teratas.html>

¹⁵ Source: BPS Kutai Kartanegara 2020

Women aged 10 years and above who are married reach 72.35% and men 56.05%. Meanwhile, the divorce rate¹⁶ for the population aged 10 years and above reached 7.21%, of which 10.06% were women. This shows that the number of women who become widows or women heads of household due to divorce is 10.06%, and 12.10% of them only have an elementary school education level.

The school enrollment rate (Angka Partisipasi Sekolah/APS) for girls aged 7 -12 years reaches 100%, but decreases with age, such as 99.3% at the age of 13-15 years and 76.71% at the age of 16-18 years. Meanwhile, boys APS in the age range of 7-12 years and 13-15 years was relatively the same, at 99% and decreased in the age range of 16-18 years, at 85.27%.

The health level of men is more vulnerable than women, this is shown by data on complaints of pain for men reaching 7.41% while women reaches 6.79%. Referring to the data of consumption pattern of the population of Kutai Kartanegara, the level of male complaints can occur due to the bad habit of smoking men where the average number of cigarettes smoked per week reaches 102 cigarettes.

On the other hand, the lower level of complaints of illness in women, could be due to psychologically women who require "always to be healthy and not to be sick", due to domestic work responsibilities and family care, although women as passive smokers are more at risk of health.

The percentage of poor people in the last 10 years tends to increase, starting from 8.28% in 2012 and in 2020 reaching 9.29%. This can also be seen from the proportion of the average monthly expenditure per capita of Rp 1,404,836, -, of which 48.36% is used to meet food needs and the remaining 51.64% is used for housing and household facilities such as electricity, water, transportation and other clothing needs.

Meanwhile, the highest spending pattern for the residents of Kutai Kartanegara is for ready-to-eat/instant food and beverages, an average of Rp 200,809, -, then expenditure on cigarettes/tobacco is Rp 78,898, which is higher than expenditure for staple foods of grains, which is Rp 71,493, - and fish for Rp. 77.785,-.

The flood disaster in Penyinggahan Sub-District in 2018 occurred 11 times and 6 times in 2020. While in Muara Pahu Sub-District, in 2018 there were 12 floods and 5 times in 2020. Muara Pahu also experienced landslides 2 times in 2018 and in 2020 happened 1 time.

IV.2.2. East Kutai Regency¹⁷

East Kutai welfare statistics in 2020 stated that the total population reached 434,459 people and 45.69% or 199,698 of them are women. The productive age group (15-64 years) reached 67.88% for women and 69.66% for men. Women aged over 10 years who were married reached 77.3% and men 57.26%.

However, the divorce rate at the age of 10 years and above reached 5.83%, of which 7.11% were women and 8.49% of them only had an elementary education level. This shows that the number of women heads of household/widows with a low level of education in East Kutai Regency is quite high.

The school enrollment rate (APS) for girls aged 7 -12 years reached 99.47%, then decreased with age as shown in the APS data for the 13-15 year age range reaching 99.64% and the 16-18 year age range reaching 78,58%. Meanwhile, boys APS in the age range of 7-12 years and 13-15 years is relatively high at 99.87% - 100% and decreased in the age range 16-18 years, namely 74.23%. This data shows the education crisis with the possibility of dropping out of school since the junior high school level for girls and the high school level for boy.

¹⁶ Cerai hidup dan cerai mati

¹⁷ Source: BPS East Kutai 2020

As many as 8.40% of East Kutai women experience more health complaints than men (7.44%). This could be due to the impact of passive smoking, where it was recorded that the male population of East Kutai smoked an average of 121.92 cigarettes per week, the domestic workload, caregiving as well as other productive work, as well as the inadequate nutrition of women. This also has an impact on the number of babies born weighing less than 2.5 kg which reached 18.10%. This figure shows the potential for stunting problems in children in East Kutai Regency.

The average expenditure per capita of the East Kutai per month is Rp. 1,572,220, -, and 54.78% of it is used to fulfill food needs and 45.21% is used for housing expenditure needs and household facilities such as electricity, water, transportation, and clothing needs.

This data shows the vulnerability of the economy and food, especially the data shows that the highest consumption expenditure is for fast food/instant food and beverages, reaching Rp. 223,017, -. This was followed by spending on cigarettes and tobacco which reached Rp. 119,293, -, which was higher than expenditure on staple foods of Rp. 83,922, - and fish of Rp. 109,687.

IV.2.3. West Kutai Regency¹⁸

The People's Welfare Statistics of West Kutai Regency stated that the population in 2020 reached 165,938 people, of which 47.62% were women. With a population of productive age reaching 68.5%, and 68.11% of them are women.

The school participation rate of girls aged 16 -18 years is 79.90% higher than boys reached 69.80%. However, school enrollment rates are not positively correlated with the health of pregnant women and infants. This can be shown by 16.65% of women aged 15-49 years who gave birth with a baby weight under 2.5 kg. The birth of a baby less than 2.5 kg indicates a poor nutritional status. This could be due to people's culture/consumption habits or lack of awareness of the importance of fulfilling nutrition and health for women, especially during pregnancy.

Fifty one percent of the per capita expenditure of the people of West Kutai is allocated for food consumption, and the 3 biggest expenditures are for instant food and beverages as amount to Rp. 227,403,- in average; for fish and other dishes, Rp. 93,073,-; and expenses for cigarettes Rp. 93.013,-. There are no recorded expenditures for vegetables and fruits.

27.59% of the population of West Kutai are smokers, with an average of 121.18 cigarettes smoked every week. This habit can be correlated with pregnant women and infant health as passive smoker.

According to the Manpower Office, in 2020 there were 2,644 job seekers who graduated from Senior High School or Technical High School, and 724 of them were women. Of the 23,880 women who are actively working, 38.96% are permanent workers or employees; 22, 75% women entrepreneurs, and 13.14% are unpaid workers including family workers. Due to the COVID-19 pandemic, the counseling for schools has been canceled in 2020

Even though the number of HIV/AIDS recorded is 32 cases and sexually transmitted infection recorded 37 cases, however there is zero number of adolescent aged 15-24 who received counseling on reproductive health, HIV/AIDS, and family planning by district in West Kutai Regency. Also there are three diseases that are most often complained of by the population in 2020, namely hypertension, gastritis and respiratory tract infection. In 2020, there were 1,798 people infected with diarrhea.

Although the GDI rate in West Kutai Regency is the highest compared to Kutai Kartanegara and East Kutai Regencies, it is known that there were 5 cases of stunting babies¹⁹ in one of the villages, namely in Minta Village, Penyinggahan Sub-District. This must be considering as critical issues to be solved through various programs intervention in Minta Village or Penyinggahan Sub-District, including peat conservation and management programs, must strive to have an impact on improving the health quality of the community.

¹⁸ Source: BPS Kutai Kartanegara 2020

¹⁹ Based on FGD and interviewed at Minta Village, Penyinggahan Sub-District on September 17, 2021

IV.3. GENDER ROLES AND GAPS (BASED ON FGD²⁰, INTERVIEWED AND SURVEYED)

IV.3.1. Daily Time used

The total productive time of women in Muara Kaman ulu village ranges from 15-18 hours, while men's ranges from 12-13 hours per day. The women's productive time apart from doing domestic work, they also do other productive work such as selling cakes, meatballs, handicrafts, and dried fish. Women are fully involved in these productive activities, starting from buying raw materials, preparing raw materials, working until the products are ready to be marketed, and selling their products to customers.

There are local marketing systems such as direct orders for Sraong²¹ handicrafts and cakes, through deposited at certain stall/kiosks like for cakes and dried fish, and some are opening specific stall/kiosks such as stall of bakso/meatball. Besides regular sales in this way, the women in Muara Kaman Ulu also accepts delivery orders for the pastries they produce. By using cellular technology such WhatsApp, facebook and other cellular channels, the women there are used to doing business transactions buying and selling through online.

Meanwhile, men's productive time is mostly as fisherman looking for fish and doing in a small part of gardening. A few number of men admitted that they are used to helping their wife's by doing domestic work in taking care of the household, such as washing dishes and sweeping the house

For the production of cakes and pastries, almost all stages of the activities are carried out by women. Meanwhile, for the production of sarong, the stage of collecting the raw materials is carried out by men or by buying from other people by women. As for dried fish products, since fresh fish is received/purchased by women, starting from cleaning, splitting, salting and drying, most are done by women.

Table 3-16: Productive Activity by Gender

Steps of Productive Activities	Female	Male
Traditional cakes and other snacks		
- Buy raw material	X	
- Productions	X	
- Packaging	X	
- Marketing	X	
Sraong Production		
- Collecting the raw sraongmaterial (pandan or kajang)	X	X
- Drying the pandan/kajang	X	
- Drying under the sun	X	
- Leave straightened out	X	
- Leave rolled around	X	
- Leave rolled back	X	
- Cutting	X	
- Weaving	X	
- make accessories (painting, put some ribbon or beads)	X	
- marketing	X	

²⁰ Muara Kaman Ulu Village, Muara Kaman Sub-District, Kutai Kartanegara Regency on September 12, 2021; Pela Village, Kota Bangun Sub-District, Kutai Kartanegara Regency at September 13, 2021; Kahala Village, Kenohan Sub District, Kutai Kartanegara Regency at September 14, 2021; Minta Villgae, Penyinggahan Sub-District, East Kutai Regency at September 17, 2021; and Sinyiur Village, Muara Ancalong Sub-District, East Kutai Regency at September 16, 2021.

²¹ Farmer hat made from leave of pandan (*Pandanus sp*) or Kajang (*Nypa Fruticans*), rattan and bamboo.

Salted Fish Production		
- fishing/collecting the fish		X
- buying fish	X	
- cleaning the fish	X	
- salted the fish	X	X
- Fish drying (in dry season there are need eat least 1 week, and wet season drying fish need more than 1 month depend on the weather)	X	
- Transport to and selling to the middleman	X	X

Source: FGD in Muara Kaman Ulu Village, September 12, 2021

Meanwhile, the average productive time of women in Pela Village, especially women from the Banjar tribe in RT 6, ranges from 10-13 hours per day. Most of his daily activities are filled with buying and selling fish to Kota Bangun sub district. If the rises water/wet season, where there are limited catching the fish, most daily activities start at 05.00 am to 6.00 am or 07.00 am by doing domestic work such as boiling water, cooking, washing dishes and clothes, cleaning the house and bathing the children.

After the domestic work was finished, to increase the variety of fish caught by their husbands to be sold, they started rushing to buy fish from the local fishermen. After that, the activity continued by tidying up the fish to be sold by placing them in fish containers of each type. At 07.00 am, the women are getting ready to go to the market in Kota Bangun by kedingting.

Usually if there are no obstacles, a trip to the Kota Bangun market can be reached within 1 hour. Arriving at Kota Bangun Market, the women doing selling the fish until 13.00 or until the fish runs out. If it's fish season, most of them will finished their fish selling activity and go back to their home in the afternoon.

After returning to their home from selling the fish, mostly around 14.00, the women usually rest by lying down to straighten their backs and legs or just spend time by watch TV. Until 15.30 the women started their activities again to prepare dinner in the kitchen. During the pandemic, where children has online learning, some women also get additional tasks by helping their children do school homework.

People in Pela Village, believe that education of their children's are fully become women/wife responsibility. If the score of student exam are low, of course the one who will be in the spotlight is the mother of that child. "*It doesn't matter how big the fish trading business results are, if our children's has low score in their school, we feel a burden as parents*"²². After all the tasks are done, women can rest around 21.30 PM in average.

It's a different story if you enter the dry season, where the number of fish in Pela Village can be more abundant. Besides buying and selling fresh fish to Kota Bangun Market, the women also do fish cleaning, cleavage, salting for further drying. In the dry season, the rest time for women is much less, due to the work on cleaning fish, salting and arranging the drying containers, it can be done from 21.00 PM o 02.00AM in the morning.

Another women story in Minta Village. Apart from doing routines as housewives, the women who participated in the FGD also did other productive work, such as gardening vegetables and fruit, making salted fish, and doing craft such making kajang roofs and sraong. The productive time of

²² Ibu Rina (37 yo) individual interviewed after the FGD done at Pela Village on September 13, 2021

women in Minta Village is highly dependent on the season. During the dry season, when women has more spent time for work in gardening, their productive time is on average between 11 -13 hours.

Meanwhile, in the rainy/wet season or known as the flood season, where the women do the processing of salted fish and other additional work such as making pandan roofing and sraong, the women productive time can reach to 14-15 hours. Currently, the seasons are unpredictable, so the working time pattern of the women in Minta Village has to adapt to natural conditions. For example, in these 2 days the water level is raise, then a lot of work to process salted fish, but the next day it started to recede back and should do the gardening work.

For villages where most of the area is mineral land/land in surrounding of peat areas, where most of the areas have been heavily intervened by forestry companies, large -scale plantations and mining, as is the case in Kehala Village. Women's productive time is mostly spent as laborers in forestry or plantation companies or as purely as housewives.

As happened in RT 09 Kehala Village, otherwise known as the location of Camp RIK, where most of the residents, including women, are company workers who have been operating since the 1980s. Starting from the presence of the Limbang Ganesa HPH, which was followed by concessions by palm oil companies such as PT. Manunggal Adijaya, PT. Agro Bumi Kaltim and PT. Tunas Prima Sejahtera and Acacia HTI such as PT. Mainstay Acacia Utama and PT. Silva Lestari (a subsidiary of Sinar Mas Group).

The average working time of women in RT 09 Camp RIK is 13 – 15 hours, starting with doing domestic work preparing breakfast for the family, cleaning the house and washing. Continued to work on the plantation start from 07.00 am to 16 pm, and continued with other domestic work such as cooking for the family, helping children study and resting between 21.00 or 22.00 at the latest. Meanwhile, men's productive time is more in the range of 9-10 hours working as laborers.

Apart from being plantation workers, several residents of RT 09 Camp RIK Kehala Village also do business by selling peat land for planting media for oil palm plantations and HTI. This work is usually done by men, because the work environment is quite risky, such as hot temperatures, earth ants that can attack the workers' bodies and can damage skin health. Peat soil extraction has been carried out since 2004, following a request from the company. The work system that applies is to be part of a team of contractors for taking peat soil, which consists of 10 people each constructor.

Usually, the working process of taking peat soil begins with clearing the weeds, raking the soil, taking and transporting peat soil into trucks, cleaning the soil from sand and other impurities, grinding the peat soil, weighing the amount of peat soil produced by weight, and loading the peat soil into the seed tubes.

For every 1 cubic meter of peat soil that is ready to be put into the seed tube, Mr. Suwoto, one of the members of the contractor who extract the peat soil, will get a salary of Rp. 100,000,- . If the need for peat soil is high, Pak Suwoto only collects peat soil of a maximum of 2 cubic meters per day.

The work of extracting peat soil will be more profitable if it is carried out in the dry season, because the number of cubic meters of dry peat soil that is weighed will be more. For example, if the wet season (rain) from 1 truck of peat harvested, Pak Suwoto can only get 10 cubic meters of peat. Meanwhile, when the dry season, from 1 truck of peat that is harvested can get 11 – 15 cubic meters of peat soil.

IV.3.2. Women in Family's Support Incomes

From the productive activities of women in Muara Kaman Ulu, the average income from the doing cakes and other snacks business ranges from Rp. 100,000, - up to Rp 400,000, - per day. While their sraong products can sell 10 pieces per week, with the price range according to the size of the sraong, are between Rp. 20,000, Rp. 35,000, Rp. 50,000, up to Rp. 10000 per item. If there is a special order for sraong products, such as orders from the government staffs or other agencies, the women can work

Women Entrepreneur

The movement of reliable businesswomen has been established in the villages around Peat Land at, Kutai Kartanegara, East Kutai and West Kutai regencies. Like Mrs. Anita (46 years old), in addition to routine domestic work, Mrs. Anita is also involved in managing fish cages, she is also having cakes & pastries business to meet the needs in her village.

This morning Anita's mother woke up at 2.30, to prepare the cake dough ordered by her neighbours, which ordered via whatsapp text in the last afternoon. At 7 am, 100 putu cakes and 100 apem cakes must be ready and delivered to the neighbour's for the salvation event. Cakes are sold at a price of Rp. 1000,-/item. Mrs. Anita's confession that in a month she can get 2-3 orders to make cakes, and it will increase if it's time for Islamic event or other social celebrations, such as in the month of Muharram and the month of Hajj.

After all the cake-making work was done, Mrs. Anita immediately did other household task such as cooking, cleaning the house, washing dishes. Meanwhile, her husband started working to feed the caged fish and ensure that the generator power source for clean water treatment could function properly. The fish feed given is vegetables, such as shelled corn, pumpkin, and watermelon. According to Mrs. Anita, if the fish are fed with vegetables, the fish will be more resistant to disease than if they are fed pellets. Besides, the taste of fish meat is much delicious. It takes 2 years to be able to harvest jelawat fish (*Leptobarbus hoevenii*), and is sold at a price of IDR 44,000/kg. Besides Jelawat fish, Mrs. Anita's husband also keeps baung (*Hemibagrus nemurus*) and catfish (*Clarias batrachus*). In contrast to Jelawat fish, baung and catfish are only fed pellets and occasionally small/dead fish caught in the river. Baung fish are sold at Rp. 44,000/kg while catfish are sold at Rp. 20,000/kg. Mrs. Anita's family manages 5 cages with a size of 2X4m. Finally, this family can harvest cage fish weighing 1 ton for Jelawat fish, 200 kg of catfish and 200 kg of baung fish.

to have a wallet bird's nest.

until 03.00 am to meet the target order. In a year the times of receiving this order are 2-3 times, but since the pandemic covid 19, this large-scale order has never existed again. Until now there are 12 sraong craftsmen who live in the Mahakam Delta. As for dried fish products, the income earned ranges from Rp 50.000 - Rp 400.000 per week.

Meanwhile, for women from the Banjar tribe in Pela Village, from selling fresh fish, they claim that they can earn between IDR 300,000 and IDR 500,000 per day. As for dried fish, they can only get results after 2-3 months of the drying process, where the price of fish will increase 2 to 3 times. For example, fresh fish of sepat siam (*Trichopodus pectoralis*) is usually sold for Rp. 7000-Rp. 8000, if it is dry, it can be sold for Rp. 20,000 - Rp. 30,000,-. While fresh snakehead fish (*Channa striata*) is sold for IDR 30,000, it can be sold for IDR 50,000 in dry conditions

The additional income of the Pela Village community, like other villages along the Mahakam river, is the cultivation of wallet bird nests. Most of the owners of the wallet bird's nest house are people from the Kutai and Katanahan tribes. While from the Banjar tribe there are also those who have wallet bird nests, but only a few of them. None of the women who participated in the discussion claimed

The income of women from selling fresh and dried fish is calculated as family income. Even if the proceeds are allocated to buy household goods and other assets, such as houses, ketinting and wallet birds, all of them are recorded as property of the husband (registered under the husband name). Only assets resulting from family inheritance can be recorded as belonging to women. The habit of recording

assets in the name of the man (husband) is common in Pela Village, especially the Banjar tribe. And it is considered not to cause problems, because the decision to use the asset is always based on a joint decision between a man (husband) and a woman (wife).

So far, if fishermen need money for business capital, they prefer to go to the bank. Even though they know there is a POMDES as an savings and loan service at village level of known as Village Cooperative Saving and Loan. They feel uncomfortable to having loan from POMDES, because prospective borrowers must submit collateral documents such as land/house/vehicle documents. In addition, they complained that the interest set by the POMDES was quite high and more burdensome when compared to borrowing through a bank.

Women in Kampung Minta had a different experience. FGD participants admitted that the most profitable source of income is gardening on dry peatlands, in addition to earning from other productive activities such as fishing, cage fishermen and selling cakes. The highest amount of income in a year is during the dry season. They will get a sizeable income by selling their garden products to middlemen directly on the banks of the river near their gardens which are managed in an area of between 0.5 - 1 ha.

The garden products that sell well in the market (middlemen) as well as become the main crops grown by the women in Minta Village are: watermelon, pumpkin, corn and eggplant. If the dry season is longer, the women farmers of Kampung Minta can plant corn 2-3 times a year. And this can be the main source of income apart from fishing by the men/ their husbands.

The gender roles in gardening in the village of Minta is as follows:

Table 3-17. Gender Roles in Peatland Agriculture

Gardening Activity	Female	Male
Sprayed the grass poison (wait till 7 - 10 days)		X
Seedling	X	
Planting	X	X
Sprayed poison for fungus or pest		X
Cleaning the weeds/wild grass	X	X
Harvesting	X	X
Selling the products (buyers/costumer will come to their garden /no need going to the market)	X	X
Saving money from selling the agriculture products	X	

Note: There is no process of scratching/hoeing the soil, the community believe the soil is fertile and loose, so you can plant right away. Source: FGD at Minta Village at September 17, 2021

Income from plantation yields is strongly influenced by farming techniques on peatlands and land area. From the average area of land managed by 0.5 – 1 ha, farmers can earn between 2 - 5 million in one time of harvesting. One of the discussion participants even admitted that last year's harvest she earned approximately Rp 20 million. This is because she managed to grow corn, pumpkin and watermelon in 3 times harvesting.

Another additional income is by becoming a salted fish labourer. It is acknowledged that for every kilogram of fresh fish employed by the collectors, the women get a wage of RP 500, -/kg. During the flood season, where the number of fish produced by fishermen is abundant, work as a laborer to clean fish as much as 100-200 kg can be done from morning to evening (07.00-17.30). The types of fish that are usually salted are biawan fish (*Helostoma temminckii*), haruan/cork fish (*Channa striana*) and

sepat siam fish.

Some women in Minta Village also carry out other productive activities by making roofs from pandan/kajang leaves. This roof is usually needed as a cooling material in wallet bird houses. The making of pandan/kajang roofs is carried out by women and men, with the division of labor as follows:

Table 3-18. Gender Division of Labor in Making Panda/Kajang Roof

Pandan/Kajang Roof Making Activity	Female	Male
Collecting the raw material (<i>Nypa fruticans</i> /Pandanus sp)		X
Cleaning the leave from the thorn	X	X
Cutting the leave with specific pattern	X	
Buying the rattan (in the past time, usually could take ratan by ourself in peatland forest)	X	
Cleaning the rattan	X	
Cutting the rattan	X	
Sharpening the rattan	X	
Sewing the leave together with rattan	X	
Draying (usually in 3 days in the dry season, and 1 -2 weeks in wet season)	X	X
Folding roof width by 2 sides	X	
the ends are sewn again (final touch)	X	
Selling to the middleman	X	X
Saving the money from selling the Kajang roofs	X	

Source: FGD at Minta Village at September 17, 2021

Additional work to make the roof can produce (20 sheet) in 1 week. If the raw materials are abundant and the demand is high, the craftsmen can produce 20 pieces (1 kodi) in a week, with the selling price to the collectors being Rp. 350,000/kodi.

Other additional income is the sale of caged fish and wallet nests. However, these 2 productive activities became the domain of men, both in the village of Minta and in other villages/villages.

IV.3.3. Peat and other Natural Resources Management

Kampung Minta is one of the villages that has received intervention from outside development programs. According to the people of Kampung Minta, WWF's presence since 2013, has had a positive influence on increasing community capacity in terms of knowledge about peat, peat conservation and strengthening of BumDes.

In addition, WWF has also developed community economic programs by strengthening community in producing palm sugar (*Arenga pinata*), crafting roofing kajang (*Nypa fruticans*) and planting bulma trees or purun mice (*Eleocharis dulcis*) which are commonly used for firewood and kahoy (*Shorea belangeran*).

The Minta Village also received assistance for a clean water management program which was then managed by BumDES. This assistance is a central government assistance funded by the Australian Government (AusAid). The last WWF activity with the community was carried out in 2019. It is hoped that if there is a similar program from other institutions, capacity building activities related to agricultural intensification and post-harvest processing will become a priority for women farmers in

Minta Village.

Farmers in the Minta Village will choose swamp land that is close to a large river basin for planting rice, because the area always gets a shipment of fertile mud, which is marked by a loose black soil color, and has been overgrown by many types of aquatic plants, such as kiambang (*Salvinia* sp) and eceng gondok (*Elchornia* sp). However, not all land near major rivers can be used for cultivation.

Farmers in Minta Village also used to see vegetation growing on peatlands near the big river such as purun mice plants which showed very acidic conditions and waterlogging conditions, galam trees (*Meleleuca leucadendron*) which showed acid conditions and excess drainage, karamunting plants (*Melastoma malabatricum*) and pink flowers (*Rhododendron singapura*) which indicate that the soil is not suitable for cultivation.

According to Mrs. Rusminah, it is not necessary to have a large area of land, because extensive processing requires a lot of money. As long as we know how to choose suitable lands for cultivation, even limited land can produce profitable agricultural products.

Besides being used as agricultural land, most of the people of Minta Village also use peat land as a source of energy. It is common in Minta Village people used gas stoves along with wood-burning stoves for daily cooking activity. In 1 kitchen/household, 1 -2 bulma trees per week are needed for household firewood needs. The source of firewood is taken from bulma trees that grow wild in peat forests.

After the devastating fires of 1982 and 1997, while the harvesting of firewood by community still continuing increased, because the supply of bulma trees in peat forests was depleted. Currently, women and men in Minta Village together with village program are trying to plant bulma trees on peatlands to restore the residents' supply of firewood, in addition to the village government continuing to strive for the availability of gas supply for household energy needs.

IV.3.4. Women Participation and Decision Making

Women's FGD participants in Muara Kaman Ulu Village, especially those who live in the Mahakam Delta, admitted that they had never been invited to village planning meetings. However, several FGD participants claimed to have attended meetings and trainings held by the relevant agencies, such as training on making fish crackers and conserving the Mahakam dolphin.

The women participating in the FGD deeply regretted that the meeting and training had no follow-up in the form of a women's empowerment program in the economy. Therefore, women's productive economic activities are considered to have high potential but have not been organized or utilized optimally as a village economic potential.

Banjar women in Pela Village, especially those living in RT 06, stated that they were often never involved in village meetings, either decision-making meetings or capacity building meetings/discussions. In fact, they said that none of them were invited or involved in PKK activities. Likewise with the view of Banjar tribal men/youth in the village administration, which only places 3 people who act as BPD (Village Representative Body).

So, with the number of representations of the Banjar ethnic minority, the wishes or hopes of the Banjar people in Pela Village are less noticed. They believe that this happened because there is an inequality of acceptance among the people who are still considered as immigrants.

Although the school score result being a concern for Banjar women in Pela Village, the choice of children's education level is still not a priority. According to them, if there are limited sources of funds, financing options tend to be allocated to buy ketinting. With the assumption that ketinting is

capital asset for running a business so that the child will be able to earn a living for his family instead of being allocated for school.

For example, in the family of Mrs. Siti Mutiah (43 years old), of her 5 children, most of them only received elementary and junior high school education (did not pass), but Mrs. Siti Mutiah has been provided each child with one ketinting.

However, these women in Pela Village admit that they always set aside money from selling fish to be saved in the form of gold jewelry of 4-5 grams per month, and then the jewelry will be exchanged for more if there is a profit from selling that will be used as savings. Deposits in the form of jewelry are believed in addition to showing social status, can also be used as fluid asset if an emergency situation occurs.

Another story is from Minta Village, where women's access to land is quite high. The women can choose and determine what types of cultivated plants they want to grow. Some of the garden land in the name of women is usually obtained from inheritance. Meanwhile, land obtained by buying from the results of the husband and wife's productive efforts, the majority are registered in the names of men (husbands).

Women's participation in politics in the Minta Village is quite high. It was recorded that in 2016-2021, Minta Village was once led by a woman, Mrs. Sri Daulat Angraini. Ibu Sri was the first woman to lead Minta Village, and at that time, was one of the 3 female village heads in Penyinggahan Sub-District.

According to the women's testimony, women could attend and vote in village meetings. However, so far, village meeting invitations for discussing village strategic programs have only been addressed to the head of the family (male). Women can attend if the head of the family (husband) is unable to attend.

The story is different with the women in RT 09 Camp RIK in Kehala Village, where most of the residents are young couples who have migrated from various regions. Starting from NTT, Manado, Buton, Java, including West Java. This community group includes marginal groups from the majority of the community, namely the Dayak Tunjung and Kutai. So even though the community has lived in Camp RIK for more than 40 years, they cannot control the land of the former forest company as is the case in other parts of Indonesia. Ex-HPH forest lands are mostly controlled by the Tunjung Dayak

Always be a Laborer in Someone's Homevillage

Namely as Astupah's, an 80 years old of women from Malang. Since the 1970s as a single parent, she has migrated with her two children to Samarinda to work in a food stall. Fate had brought her to Kehala Village along with the establishment of the HPH company at that time. I

Young Astupah worked as a canteen staff, serving 13 kitchens for 400 employees at that time. Don't ask for working hours. Canteen workers should dedicated as a labours who must always be ready when staff or company bosses require food and other logistics services. It's no wonder that Mrs. Astupah's work time is spent starting at 04.00 in the morning and will end it up at at 21.00 PM.

"Although seems like working like a horse, I can only be grateful that Allah has given me health to be this old". That's the expression of Mrs. Astupah always grateful for the journey of life's difficulties that she lived.

At the beginning of her work, Mrs. Astupah earned Rp. 25,000 per month, and slowly increased till the last she got the payment of Rp. 800,000 per month in 2008. With tears in her eyes, Mrs. Astupah revealed that she no longer had any family in her hometown in Malang, or more accurately, she didn't remember anymore. Because in the past, when the intention came to want to go home, it was always grounded and constrained by the lack of money that was owned for the fare.

Currently, Mrs. Astupah still lives with her second husband in the staff housing in Camp RIK with a size of approximately 20m2. In old age and retired, Mrs. Astupah do not lose a spirit and try to filling her time by working as serves catering for employees independently at her home.

Astupah is not alone. According to her, there are several women who have more or less the same fate as her in the forest and plantation company labour camps

community, and there is not a shared of forest land that can be accessed by the community at Camp RIK/ex-company workers.

IV.3.5. Women Knowledge in Peat Management

The FGD participants in Muara Kaman Ulu Village stated that the flood season is the time they have been waiting for, because the number of fish caught is very large, and it can support the family's economy. In the past, approximately 10 years ago, the people of Muara Kaman Ulu could still predict when the flood season would occur, when the dry season would occur. But now they can't predict another season. Like September this is the season to flood after 2 years in a row there is no flood season.

The natural phenomenon that they remember are the flood seasons that occurred in 1972, 2007, 2009 and 2017. In 2009, it was an extreme flood season, where for almost 2 full months the water level reached 1-1.5m above their house on stilts. At that time, all communities in the Mahakam Delta must evacuate to save lives.

Women in the village of Minta never give excessive fertilizer for their vegetable and fruit gardens. They understand that peaty riverside land is rich in organic substances which are very good for plant growth. The challenge faced is the high tide which can soak the plants they plant. Although the season is difficult to predict, however, various methods and knowledge obtained from their ancestors to predict the high tide or dry season are still the mainstay of reducing the risk of crop failure.

This knowledge includes²³:

1. If the fish start to leave the area of land that decreases towards the river, it is a sign of the arrival of the dry season.
2. If the water level is decreasing but there are still saluang/cork fish that survive, it indicates that the declining land will still not dry out.
3. Stars appear on the western horizon at dusk until after sunset, indicating that the water on the declining land will begin to dry up. The appearance of stars on the western horizon is a sign for farmers to immediately sow rice seeds.
4. The high tide that comes gradually is also a feature that determines the length of the dry season. If in three high tides (tidal, low tide and high tide), the tide level at the third tide stage is higher than the previous two high tides, usually a long dry season occurs.
5. White birds such as egrets (*Egretta garzetta*) and a kind of stork start to lay their eggs in the bushes of the prairie, which is a sign that the water will recede. The white bird expects that after the eggs hatch the water will recede so that the children can easily find prey (fish).
6. The motion of the smoke can be used as a sign, for example, if the motion of the smoke clumps upright for a long time, then the possibility of a long dry season will come.

²³ Prosiding Seminar Nasional Lahan Basah 2016 Jilid 3: 1016-1022 ISBN 978-602-6483-40-9 (diunduh pada 25 September 2021 di <http://lppm.ulm.ac.id/wp-content/uploads/2017/10/SNLB-1609-1016-1022-Prayoga.pdf>)

IV.4. GENDER RISK AND OPPORTUNITIES IN PEATLAND MANAGEMENT AND CONSERVATION ACTIVITIES

Gender risk and opportunities identification is very important to be a concern. Gender risk and opportunities is formulated by considering the findings of gender roles and issues related to the initiative of peatland management & conservation programme.

Thus, indicative activities for risk mitigation should become an integrated part of project's gender strategic plan. Surely these indicative activities must be reviewed and updated with reference to the PROPEAT project design agreed by GIZ and MoEF.

Thus below the indicatives risks, opportunities and mitigation action matrix:

Gender Opportunities	Gender Risk	Categorize	Mitigation Action
Women around and in the peat forest area are active in family economic activities	Women experience a lack of time due to double burdens in household and other productive activities, this risks creating additional new burdens on women if the project involves women in project implementation without considering the double burden. Or even risk causing domestic violence, if there is no common understanding among husband and wife about the importance of women being involved in this project.	Moderate	<ul style="list-style-type: none"> - Facilitating the training or socialization on gender sensitization in village development - Provide supporting system facilities for women involved in project activities. Example: providing daycare/public kitchen/other facilities for women who have toddlers and are involved in training activities
Although most of the land is controlled or in the name of men, but women have access and are fully involved in peatland agriculture	In peatland's agriculture, women prefer crops that are oriented towards meeting household needs (food and energy). With changes in landscape conditions and extreme climate change, there is a risk of men's claims to fertile/safe land from possible disasters to plant market-oriented crops, and leaving women on the land that more vulnerable/less fertile for growing crops oriented towards meeting household needs	High	<ul style="list-style-type: none"> - identify the types of plants prioritized by women, and ensure that these plants are included in developing peatland conservation program - Conduct participatory mapping (women and men active involved) to determine peatland management to be developed for agriculture and or aquaculture
Women have knowledge related to peatland	The Peatland Conservation program requires new information, skills and	Moderate	<ul style="list-style-type: none"> - Ensure women group are consulted during project implementation and their

Gender Opportunities	Gender Risk	Categorize	Mitigation Action
sustainable management knowledge.	<p>technologies to be disseminated to the community as project beneficiary. While data shown women's access to education, both formal and informal/vocational, are lower than men's, there is a risk that women farmers will be left behind in changing/adapting more sustainable peatland management.</p> <p>Leaving women in project implementation will risks losing the opportunity to discover new knowledge, skills or technologies developed by adapting from traditional</p>		<p>information and knowledge will taking into account</p> <ul style="list-style-type: none"> - Develop detail Gender action Plan and Lesson Learned on Peatland Conservation Program
Willingness of women to be involved in public activities, both for village program discussions and capacity building meetings	Women's decision making and political involvement is limited. Men tend to have more influence over local policies and will be at risk for project implementation policies that do not support women's need and priorities	High	<ul style="list-style-type: none"> - Make sure the active involvement of women in the public discussion related to the program by directly sending invitation with women's invitee names. - strengthening women through the establishment of organizations that can realize women's political aspirations peatland conservation, such as the establishment of KWT
By following the obligation to integrate gender equality aspect in all development program	The low understanding and sensitivity on gender perspective of project implementers and key stakeholders is at risk of further increasing the gender gap that occurs at the project site	High	<ul style="list-style-type: none"> - develop clear guideline on gender integration action - facilitating training and capacity building for project implementation and the key stakeholder on gender equality matters

IV.5. POINT TO BE CONCERNED FOR DEVELOPING INDICATIVE ACTION FOR GENDER INTEGRATION IN PEATLAND PROJECT

In general, the objective of the gender mainstreaming strategy in development program including peatland conservation program is to improve the welfare and equality both women and men as program's beneficiaries, especially women by integrating various targets that are more responsive to the resolution of gender issues faced at the project site.

Thus at the minimum of the gender responsive targets can be carried out at the level:

1. *Institutions & Governance*, in this case MoEF as key constituent of GIZ ProPEAT Program and other key stakeholders in the Peatland Conservation & Management Program which should avoid gender neutral in all aspects in their programs related to peatland conservation and management program by make sure a number or women in strategic level and position in programs organization, make sure the availability of disaggregated data will used as the basis for determining project targets and M&E activities;
2. *At the community level*, which still places women in less strategic roles in village development programme. Therefore, gender responsive targets are very important to be able to inform the activities that can increase women's roles in decision making in peatland conservation and management programme implementation.

Thus, there are proposed recommendations for the implementation of a gender mainstreaming strategy as follows:

IV.5.1. At Institution and governance level:

- A. By the end of the project, the share of women in women's group (could be in form of KWT for example) will engaged in peatland conservation activities increase to XX%. This is to be achieved by carrying out the indicative activities outlined below:
 - a. Facilitating the establishment of new women's group (KWT). This activity is the responsibility to be carried out by Project Management Unit (PMU) including project regional office. PMU may coordinate, consult or collaborate with related local Government and other key stakeholders identified.
 - b. Facilitating capacity building for women beneficiaries on understanding the sustainability of peatland conservation and management and increase knowledge, skill and networking to strengthen women economic empowerment activities. This activity is the responsibility to be carried out by PMU with support from individual experts on related capacity building issues.
- B. By the end of the project, the number of women as field facilitators in the PMU will increase to XX% by recruiting female staff as field facilitator. The candidate with multidiscipline knowledge and experience, especially related to the stunting issues and community behaviour change are most welcome.
- C. Increased gender sensitization in PMU and relevant key stakeholders. This is to be achieved by carrying out the indicative activities outlined below:
 - a. Facilitate the capacity building process in PMU and relevant key stakeholder on why gender matters in Peatland conservation and management, the importance of gender ethical approach for project activities, etc. This activity is the responsibility to be carried out by PMU with may

collaborate with or consult to the key relevant stakeholder. This activity may support from individual experts on related issue's capacity building or MoEF's Gender Working Group;

- b. Recruit female technical experts on Peatland conservation and management
- D. Develop M&E system incorporating gender mainstreaming developed and implemented for adaptive project management and disseminate information on the practice. This is to be achieved by carrying out the indicative activities outlined below:
- a. Compile gender disaggregated data and information on the project activities and develop appropriate gender indicators in the M& E Plan;
 - b. Identify the most significant change and gender lessons learned as part of the M&E approach of the project;
 - c. Organize a National workshop for disseminate the gender lessons learned.

IV.5.2. At the community level:

- A. By the end of the project, the access to broader markets for women for the marketing of their products will increase, including information and access to financial support. This is to be achieved by carrying out the indicative activities outlined below:
- a. Facilitate the capacity building process for women's group/KWT members on quality of product, financial literacy and developing business models. This activity is the responsibility to be carried out by PMU, may collaborate with or consult to the key relevant stakeholder, and may support from individual experts on related capacity building issues.;
 - b. Facilitate "Temu Niaga" event at national level to initiate developing strategic networking for women economic empowerment result. This activity is the responsibility to be carried out by PMU, with support by Local Government (Dinas Kehutanan, Dinas Pertanian, Dinas Perdagangan, etc) and other key stakeholders
- B. Increase women's participation in community decision making and involvement in education & family support through developing women forum on peatland conservation & management. This is to be achieved by carrying out the indicative activities outlined below:
- a. Conduct a community FGD to understand the status of women organizations in the project location and community perception of various issues including perception of women's participation in public activities;
 - b. Engage the potential formal and informal women organization in the establishment of women forum;
 - c. Develop a gender sensitive campaign and materials that highlight the perspective and roles of women in peatland conservation & management.

Several aspects that are very important to be considered as operational approach and principles in ensuring the implementation of gender mainstreaming strategy in the project, include:

- *Capacity building* is seen as a planned and systemic effort to develop or modify the knowledge, skills and character traits of the project team and related key stakeholders, through learning experience, reflections, field study, exercises and practical assessment processes. When capacity building is linked to project's objectives and structural changes, it acts as a potent means of increasing the human potential to achieve those objectives. By this definition, capacity building will be broader than training activities

- *Leadership*, the impact of implementing a gender mainstreaming strategy and gender mainstreaming activities should be measured not only in the number of women participation in the attendance lists, but also by emergence of some gender focal point or leader (could be women or men) at various project levels, who has the ability in transforming the change to reduce various gender gaps in the project implementation location.
- *Interrelated organization* to strengthen gender mainstreaming strategy in the project by ensuring PMU as a project implementer willing to coordination and collaboration with relevant stakeholders including optimizing the presence of Women's CSOs and other related local government services and offices as strategic stakeholders.
- *Budget allocation for gender activities*, that explicitly allocate financial resources for gender-related activities, including a gender specialist and/or a gender consultant.

Remaining the budget is a very important instrument to reflect the priorities and commitment, thus the project that are committed to gender equality tend to demonstrate that commitment in the form of gender-sensitive budgets. The development project budgets are not gender neutral. While budgets have different impacts on men and women, and can reflect the division of power in society, as well as socio economic inequalities.

Based on the study²⁴, until 2019 there were still gaps in gender responsive budgeting in development in Indonesia. The proportion of the budget for the benefit of women is still very small, which is less than 5% of the total development budget. Meanwhile, advocacy from women's organizations-KPI, at the People's Consultative Assembly have proposed to allocate 30% of the APBN for education, 15% for health, and 5% for women empowerment (according to the Resolution of the People's Consultative Assembly No.6/2000).

Meanwhile in the same year, based on WRI research²⁵ the increase in legal products related to women's empowerment in the nine regions²⁶ is not matched by an increase in Regional Revenues and Expenditure Budget (APBD) allocation for women. As a matter of fact, in Gianyar-Bali, the APBD allocation for women is revised from 2.53% to 2.45% from the total APBD. The low percentage of budget allocation for women's empowerment can also be seen in Mataram Regency. The budget allocation for women's empowerment (which is still integrated with the health sector and child and adolescent welfare) in the 2001 budget stands for only 0.03% of the total APBD.

Thus to ensure the appropriate implementation of all the gender responsive targets and activities mentioned above, it is recommended to allocate at least 5% of the budget for each output for gender mainstreaming activities.

²⁴ Khaerah, Nur & Diyah Mutiarin. 2014. Integrasi Anggaran Responsif Gender dalam Anggaran Pendapatan Belanja Daerah. Jurnal Ilmu Pemerintah & Kebijakan Publik Universitas Muhadiyah. Yogyakarta.
<https://journal.umy.ac.id/index.php/GPP/article/view/2636>

²⁵ Decentralization & Gender Budgeting. <https://www.wri.or.id/en/189-current-project-en/women-politics/gender-budget/569-decentralization-and-gender-budget.html#.YSSQhS0RodU>

²⁶ Jawa Barat (Kabupaten Sukabumi dan Tasikmalaya), Sumatera Barat (Kabupaten Solok), NTB (Kabupaten Mataram, NTT (Kabupaten Kupang), Bali (Kabupaten Gianyar, Aceh (Kota Banda Aceh), dan Sulawesi Tenggara (Kabupaten Kendari)

CHAPTER V:

COMMUNITY-BASED PROGRAM DESIGN TO SUPPORT SUSTAINABLE PEATLAND MANAGEMENT ACTIVITIES

Community development on peatlands must be able to increase the community's ability to optimize the utilization of economic potential and natural resources without damaging the environment. The limited economic carrying capacity of peatlands in terms of agriculture, must be a challenge in finding solutions so that the community has a choice of decent and environmentally friendly sources of livelihood.

Thus, increasing economic capacity must also be accompanied by increased awareness of environmental sustainability. Without it, improving economic conditions can actually turn into a destructive factor because it can become capital for some people who are not aware of doing more environmental damage²⁷.

Since it was initiated that community development is an organized effort to increase the living capacity of the community²⁸, currently community development leads to sustainable development for the future. Therefore, this recommendation will provide a reference based on the existing conditions in the field. One of the goals of community development is to reduce poverty itself.

V.1. ASSET BASED COMMUNITY DEVELOPMENT APPROACH

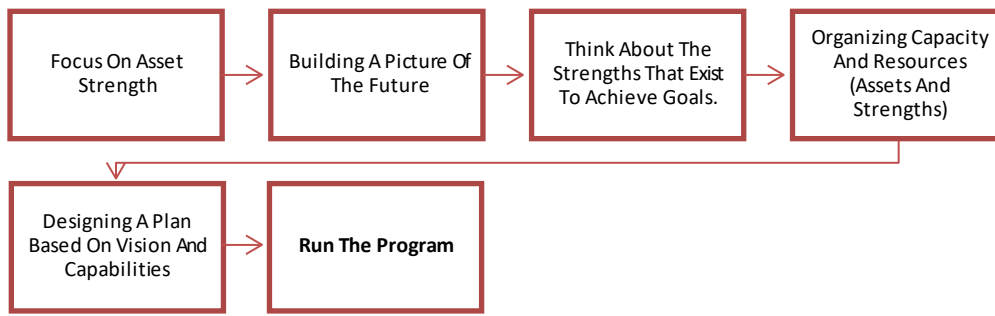
ABCD (Asset Based Community Development) is one of the concept in community development, his concept is an alternative to community development by developing existing assets in the community. This approach is a practical way of discovering and recognizing the positive things in life, inviting us to focus on what works and what inspires and what is a positive strength or potential.

The asset-based approach brings a new perspective that is more holistic and creative in seeing reality, by choosing to see that people have something that can be empowered rather than not having or always lacking.

²⁷ Najiyati, S., Agus Asmana, I Nyoman N. Suryadiputra. 2005. Pemberdayaan Masyarakat di Lahan Gambut. Proyek Climate Change, Forests and Peatlands in Indonesia. Wetlands International – Indonesia Programme dan Wildlife Habitat Canada. Bogor.

²⁸ Dunham, Arthur. 1958. Community Welfare Organization. By Arthur Dunham. New York: Thomas Y. Crowell Company.

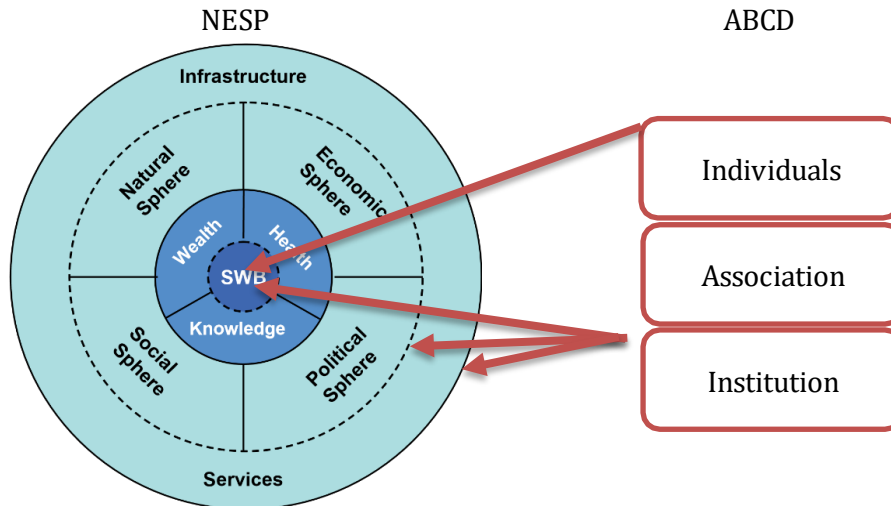
Figure 3-65. ABCD Process²⁹



One of the reasons for choosing this approach is the adjustment of data collected from the NESP survey. Although the idea of the NESP and ABCD methods seems very far away, where the NESP method tries to capture poverty as a whole, while the ABCD approach tries to show the potentials of the community, the picture of the data collected is very close to meet each other.

The initial stage of the ABCD approach, as will be further elaborated into this research, is to look at the assets owned by the community, these assets are the capacities of individuals, associations, and institutions, after that develop the aspects that support the relationship between the three cores. Then from the results of mapping the three cores, make a picture of how to develop them.

Figure 3-66. Match NESP with ABCD



The results of observations in the field for ten days also provide a complete picture that the community actually has assets that have the potential to be developed. However, they still need parties who facilitate towards self-reliant communities with mobilized assets. This research is expected to be the initial stage of mapping potential assets in the community.

²⁹ Green, Gary P., Goetting, A. 2010. Mobilizing Communities Asset Building as a Community Development Strategy. Philadelphia: Temple University Press.

V.1.1. Mapping the Assets of a Community: Individuals, Associations, Institutions

This stage will map community-owned assets, where all assets have positive values that can be developed for the common good. Therefore, we do not see the existing shortcomings as a barrier but as an opportunity in community development activities.

A. Individual Capacities

One aspect that can be used as an indicator in seeing individual capacity is the level of education. From 641 respondents who have been interviewed, as many as 240 people attend high school, this figure is the highest compared to other education levels, 187 people only go to elementary school, 155 people go to junior high school, and 55 people have attended college.

This statistic shows that the awareness of people who run the 9-year compulsory education program³⁰ up to junior high school is quite good, the percentage is still above those who only take basic education and don't go to school. Data that shows the school participation rate (Angka Partisipasi Sekolah/APS) of these three districts is also quite high.

Table 4-19. Education Level of Each Village from the NESP survey Result

Desa	PT		SD		SMA		SMP		TS		Total
	L	P	L	P	L	P	L	P	L	P	
Genting Tanah	2	1	2	6	10	5	2	2			30
Kahala	1	2	1	4	4	10	2	5			29
Melintang	2		4	8	5	4	2	1			26
Minta	3	1	6	10		2	4	3			29
Muara Enggelam	2				15	2	6	1			26
Muara Kaman Ulu	1	1	6	4	8	1	1	2			24
Muara Siran	1	4	2	1	7	7	4	5			31
Muhuran	1		2	5	10	8	2	1		1	30
Pela		1	7	4	6	6	5	1			30
Penyinggahan Ilir	2	1	3	2	6	4	7	5			30
Sabintulung	3		7	11	4	2	2		1		30
Sebelang	2	1	2	5	8	5	6	2			31
Sebelimbingan			6	5	7	1	4	7			30
Sebemban			5	3	2	5	8	6			29
Semayang	4	1	1	2	12	3	5	2			30
Senambah			2		11	3	10	4			30
Senyur	1	2	6	2	6	3	5	2	1	1	29
Teluk Muda			13	8	2	3	4	1			31
Tepian Ulaq	1	1	8	2	6	2	6	1			27
Tuana Tuha	8	3		2	8	4	2	3			30
Tubuhan			9	1	11	2	5	2			30
Tunjungan	1	1	4	6	7	3	2	5			29
Grand Total	35	20	96	91	155	85	94	61	2	2	641

³⁰ Compulsory Education for 9 Years of Basic Education, is a Government of Indonesia program to answer the needs and challenges of the era. Based on the National Education Law No. 2/1989. The government seeks to improve the standard of living of the people by requiring all Indonesian citizens aged 7-12 years and 12-15 years to complete basic education with a program of 6 years in elementary school and 3 years in junior high school equally.

From the results of field observations and FGDs conducted in several villages, public awareness about the importance of education is very good in this area, although there are no universities at the sub-district level, at the district level of Kutai Kartanegara, Kutai Barat, and Kutai Timur, there are a number of universities. Children from rural areas who are pursuing higher education generally migrate to cities to complete their education.

An interesting finding from the field is that unlike most other villages where the younger generation who migrated to complete undergraduate education generally settled in urban areas, in this area there are still many scholars who return to the village and become part of the village apparatus, become cage or livestock entrepreneurs, even become a village leader like in the village of Muara Kaman Ulu.

This shows that they realize that they have a strong bond to develop their village and territory. Although the income they get may not be as much as if they get a job in the city, but they realize that the competition for jobs in their village is not as fierce as the competition for jobs in the city.

“As communities realized that there were other ways to create jobs, they began to focus on internal opportunities such as facilitating small business development and ensuring that businesses already located in the community stayed and expanded there. Many communities also realized that by improving education, government services, the local labor supply, and the business climate in general, they could make themselves more attractive to industry.”³¹

The younger generation with higher education who has ties to their village is a very valuable asset owned by each village. Generally, the younger generation with higher education has an open way of thinking to process information that is useful for community development, they can also mediate information to other residents with kinship language.

With the potential of youth returning to the village after pursuing higher education, the village has assets that can support sustainable development in the village. In fact, the level of trust in youth to occupy structural positions in village government appears to be quite high, such as in the village of Minta and the village of Muara Kaman Ulu.

The middle-aged and older generations in almost every village are also seen to have productive activities, as fishermen, or freelance workers from plantations. In general, the work of fishermen is carried out by men, meanwhile women are more likely to have home-based businesses or sell in villages or sub-district markets. The results of the enumerator's observations of 641 respondents showed that 85% of respondents were considered quite prosperous based on indicators from the NESP survey.

The results of the NESP survey show that the main occupation with the highest number of respondents from these 22 villages is housewives. However, from the results of field observations and FGDs, the main occupation of men in villages close to 3 large lakes or with river access is fishing, while in villages that are industrial plantation areas, the main occupation of the community is private employees.

The data collected from the NESP survey is based on the limited time of sample collection, where during the day the workers, both fishermen and private employees, are not at home.

³¹ Phillips, Rhonda., Pittman, Robert H. 2009. An Introduction To Community Development. New York: Routledge. Page: 37.

Table 4-20. Main Job Characteristics in Each Village from the NESP survey Result

Village	Housewife	Fisherman	Village staff	Farmer	Private Employees	Others
Genting Tanah	11		5	6	1	7
Kahala	12	1	1	1	3	11
Melintang	9	10				7
Minta	12	7		1		9
Muara Enggelam	3	9	6	1		7
Muara Kaman Ulu	6	4	1		2	11
Muara Siran	4	2	8	1		16
Muhuran	10	1	3	9		7
Pela	11	12				7
Penyinggahan Ilir	8	9		3	2	8
Sabintulung	14	1			4	11
Sebelang	3	7		5		16
Sebelimbingan	13	5		1	1	10
Sebemban	7	8	3	4		7
Semayang	6	13	3		1	7
Senambah	1	13	6		1	9
Senyiur	9	2		1	5	12
Teluk Muda	11	11		2		7
Tepian Ulaq	6	12		1	3	5
Tuana Tuha	7	3	5			15
Tubuhan	4	22	4			0
Tunjungan	9	9			1	10
Total	176	161	45	36	24	199

Field findings also show that of the 641 people interviewed, only 40 people, or around 6% of the total respondents, who has received capacity building training. Field findings also show that of the 641 interviewees, only 40 people, or about 6% of the total respondents, received capacity building training. This shows that there are still many opportunities for individual and group capacity building programme that can be implemented for this 22 villages. From 5 villages that were designated as FGD locations, only Minta Village showed good results from community assistance and capacity building.

Several people and community groups have received capacity building training. The most widely obtained training from interviewees is Agricultural/plantation training. This indicates that there is a possibility that this training will be obtained by a special group related to agriculture/plantation. In addition, the number of residents receiving training on natural resources and their management has a fairly good frequency, with the highest number being training on Pesut Mahakam.

Table 4-21. Training Received By The Community From The NESP Survey Results

Value	Percentage
Agriculture/Plantation	71.11%
Others *	20.00%
Bengkel	6.67%
Workshop	2.22%

Computer	25.0%
Appropriate technology	25.0%
Mat Craftsman Training	12.5%
Fishery	12.5%
Handycraft	12.5%
Peatland	12.5%

Based on the description of the field conditions, from the 22 villages where the survey was conducted, the community has great potential, they are very open and quite understand the importance of education. The high percentage of people who receive the 9-year compulsory education program is very high.

One Interact Directly with Peat

Another interesting finding in the field was a deep interview with Pak Suwoto from Kahala Village, a former HTI worker from Java. Unlike most people who interact with peatlands to find or utilize natural resources in the environment around peatlands, Pak Suwoto directly takes peat soils to sell as nursery media to plantation companies. Pak Suwoto sells peat that has been drained and chopped for 100 thousand rupiah per cubic meter which he can work in one day.

Although this interaction is directly in the form of destruction of peatlands, there are many reasons behind Pak Suwoto carrying out this profession. One of them is a request from the plantation company itself, this also shows the level of poverty that causes people to seek income by destroying the environment.

With an age that is no longer young and as as one of the marginal groups with all its limitations in the region, Pak Suwoto did not have much choice after HTI activities stopped. One reasonable way to stop this destructive activity is to provide Pak Suwoto with alternative productive activities. Pak Suwoto can also be a direct research guide in the surrounding Peat Area with the experience he has during direct interaction with peat soil.

Figure 3-67. Camp RIK on Google Map View & Process Peat Soil Into Nursery Media



Pak Suwoto lives in an area called the "Camp RIK" which is part of Kahala Village, to be precise in the camp RIK there are RT 09 & RT 10 from Kahala Village, which are planned to be merged into one RT. Camp RIK is a mess area that was formerly used by HTI employees. Pak Suwoto and other Camp RIK residents who are former HTI employees do not have rights to the land where they live.

The residents of Camp RIK can be said to be like miniatures from Indonesia, where the ethnic diversity of the population varies greatly from various islands in Indonesia. Another unique thing is that the RIK camp location is 25 km from Kahala Village, even closer to Teluk Bingkai Village and Genteng Tanah Village.

The reason why Camp RIK is included in the Kahala village section is that Kahala Village is the center of the Kenohan District, thus simplifying the administrative affairs of Camp RIK residents. This shows that marginalized and vulnerable groups are not immediately discarded and marginalized by the community in this area.

Pak Suwoto and the others have a clear population identity, although they do not have the right to the land where they live, they can still get access to community services from the central and village governments.

Crafting & Cooking from Materials Around Peatlands

Another field finding related to individual capacity was the high production of handicrafts and processed food in almost the three village locations where the FGDs were held. This shows that the community in this area can take advantage of existing resources to be developed with more selling value. This ability can be developed with alternative material processing trainings from existing handicraft materials.

The existing handicraft processing has limited materials taken from the surrounding environment. Forcing to increase income by massively producing existing handicrafts will certainly cause environmental damage and material scarcity. With talent that has become a common habit in this society, the ability to work by processing materials into economic value is a very valuable asset owned by individuals and can be developed together with the community for the common good.

In Muara Kaman Ulu Village, women are able to produce Seraung Hats which are useful for protecting the head area from sunlight and rain. Based on the results of the FGD, one woman in Muara Kaman Ulu Village was able to make Seraung hats with a quantity of 20 small hats per week. These hats can be sold to villagers or sub-district markets. They have also ever received orders from relatives who live outside East Kalimantan Province to resell.

Another handicraft that also has economic value is making a wall covering for a swallow's nest building with almost the same material as making a seraung hat. From the results of interviews during observations and FGDs in Minta Village, the manufacture of wall coverings is routinely carried out in Minta Village, although this is also constrained by material limitations.

Similar to the Seraung hat, orders for swallow nest wall coverings were not limited to Minta Village, they also received orders from other villages to fulfill swallow nest wall covering needs, although they did not come out of East Kalimantan Province.

Figure 3-68. Crafting & Cooking From Local Materials



In addition to handicrafts, the ability to process raw materials obtained from the environment around peatlands is to make processed foods. In Pela Lama Village, it was found that the processing of dried fish was carried out by women. The fish that is processed into dried fish is fish obtained from traders who are unable to sell all the fresh fish.

This dried fish has a longer expiration duration so that the fish still has economic and nutritional value so that it does not rot and is wasted. In addition, the processing of raw materials into staple foods sourced from the surrounding environment is also found in Minta Village.

The resulting product is brown sugar/palm sugar which is processed from palm tree juice through a tapping process and then this palm tree juice is cooked until thickened and then cooled in the mold.

Online Entrepreneur

Currently, digital culture has been recognized by most of the world's people as part of civilization. The concept of digital culture describes how information technology shapes the way we interact as humans. It is the way we behave, think and communicate so that we become part of society. In general, people in the peat area where this research is located are also familiar with information technology, although some villages are limited to slower networks, but overall this area has good internet access.

From the results of the NESP Survey, it was found that one of the respondents whose main income was from online selling. The results of the FGD with women's groups in Muara Kaman Ulu

Village show that the community has a special forum on the Facebook platform to interact with each other regarding villages, and they even sell through online orders on the platform.

Likewise, the results of the FGD with women's groups in Muara Kaman Ulu Village showed that the community has a special forum on the Facebook platform to interact with each other regarding the village, and they even sell through online orders on the platform. awareness of information technology is certainly a good thing if used properly, this can certainly be seen as an asset that can be developed together to support sustainable development, not only at the village level, but also at the sub - district level, and can even be developed further with the community. who live in the Mahakam Peat area.

The opportunity for developing a digital village is very large, however, to develop it into a massive activity in the community, the steps taken must consider several aspects that might trap the community³². however, this opportunity can still be tried and developed further by looking at the existing capacity to develop it. In addition, the digital market which is now very developed allows people to earn more by using it.

This opportunity can be seen from the presence of traders and entrepreneurs whose activities can be integrated with online market platforms. From the results of the NESP survey, we can see that the position of the number of entrepreneurs and traders respondents is still high.

Table 4-22. Job Characteristics Details in Each Village from the NESP survey Result

Value	Percentage
Housewife	27.5%
Fisherman	25.1%
Village Staff	7.0%
Farmer	5.6%
Private Employe	3.7%
Entrepreneur	3.0%
Self-Employed	2.8%
Trader	2.8%
Student	2.2%
government employees	1.9%
Teacher	1.9%
BPD (government employees)	1.9%
Farmers Are Also Fishermen	1.7%
Head of RT(house cluster)	1.6%
Un- Employed	1.2%
Village Leaders	1.2%
Mining Company	0.9%
Family Business	0.8%
Posyandu (health post)	0.8%
Gardening	0.8%
House Industri	0.6%
Nurse	0.5%
Driver Service	0.5%

Value	Percentage
Traditional Leaders	0.3%
BPK (government employees)	0.3%
Workshop and mechanic	0.3%
Health Workers	0.3%
Ketua Karang Taruna	0.2%
Motor Wash	0.2%
Contractor	0.2%
School Principal	0.2%
Honoror	0.2%
Koperasi	0.2%
Carpenter	0.2%
Online Shop	0.2%
Mahasiswa	0.2%
Bangunan	0.2%
River Crossing Services	0.2%
Fisherman	0.2%
swallow nest business	0.2%
Massage therapist	0.2%
Mosque staff	0.2%
LPM	0.2%
Housewife	0.2%
Farmer also Fisherman	0.2%

³² Malecki, Edward J. 2003. Digital development in rural areas: potentials and pitfalls.

Table 4-23. Association & Institution Fond in NESP Survey

Value	Percentage	Value	Percentage
PKK, Anggota	21.6%	Posyandu, Ketua	1.4%
RT, Ketua	7.9%	Kelompok Nelayan, Ketua	1.4%
Kelompok Tani, Anggota	7.2%	Linmas, Ketua	0.7%
Karang Taruna, Anggota	6.5%	PPS, Anggota	0.7%
Posyandu, Anggota	5.8%	LP4D, Ketua	0.7%
Perangkat Desa, Staff	5.0%	LPAD, Anggota	0.7%
Keagamaan, Anggota	4.3%	Perangkat Desa, Bumdes	0.7%
Kelompok Nelayan, Anggota	4.3%	BPD, Wakil ketua	0.7%
Karang Taruna, Ketua	3.6%	Perangkat Desa, Kasi	0.7%
BPD, Anggota	3.6%	BPK, Ketua	0.7%
Lembaga Adat, Staff	2.9%	Koperasi, Anggota	0.7%
Linmas, Anggota	2.2%	Kelompok Olahraga, Anggota	0.7%
LPM, Ketua	2.2%	Kelompok Arisan, Anggota	0.7%
PKK, Ketua	2.2%	MPA (Masyarakat Peduli Api), Anggota	0.7%
LPHD, Anggota	2.2%	Perangkat Desa, Poskedes	0.7%
Kelompok Usaha Kerajinan, Anggota	2.2%	Kelompok Pemuda, Anggota	0.7%
Lembaga Adat, Ketua	1.4%	Perangkat Desa, Sekdes	0.7%
LPM, Staff	1.4%		

V.2. ASSOCIATION AND INSTITUTION

V.2.1. Association

As stated by Kretzmann & McKnight (1993) the basic community organizations and groups to empower individuals and mobilize their capacities are associations. An association is a group of citizens who work together. An association is a reinforcer of the gifts, talents and skills of individual community members³³. Through community groups, they have tools for strengthening and developing individuals, as well as strengthening communities.

Associations in the village in the form of groups with the same interests in work, social services, youth groups, culture, religion, etc. From the results of the NESP Survey, the highest percentage is the group of women, PKK, but back to the limitations of sampling respondents during the day, where most women are at home and men who work or seek income are generally not at home. Nevertheless, each group that has been obtained in the results of the NESP survey can be considered to have represented most of the groups in the village.

From the survey results, we can classify organizations that are groups and find that PKK is the group with the most significant group encountered when the survey was conducted, followed by youth

³³ Page: 109.

organizations and farmer groups, fishing groups that may not be able to be found during the day following in the next order. then religious and cultural groups.

A. Association Environmental Awareness

In Muara Kaman Ulu Village, the fishermen's group seems to understand very well the conditions and environmental problems. When the FGD was conducted, they complained about river pollution from the waste disposal of the surrounding palm oil plantations. According to them, this palm oil waste causes water hyacinth to thrive more massively than usual. With the abundance of water hyacinth plants flowing in the river, they feel the impact of the silting of the river, according to them the fish catch is getting less and less since they noticed the increasing number of water hyacinth. They also complained about submitting the company's CSR proposal to build a land for planting garbage in the village which was not accepted by the company.

Awareness of the state of environmental damage is a valuable asset owned by the community, meaning that this group understands the environmental conditions that support community life. However, the problems that occur between the company and the people of Muara Kaman Ulu Village must be resolved, so as not to cause continuous conflict between existing institutions and the community where the institution is located. Resolving conflicts is also a form of community development by involving other institutions that are capable of being mediators in conflict resolution.

B. Integration of Information Technology in Local Association

Pela Lama Village is a tourist destination that has been known by the public as a tourist paradise where to see Pesut Mahakam. Pela Lama Village has been plotted as the main tourist destination of Kutai Kartanegara Regency. When conducting a FGD in Pela Lama Village, an interesting finding was the payment method for tourism using a QR-Code. This shows that the integration of information technology can be developed in this area. This also relates to all regions that have had fairly good internet access. The potential for developing the use of information technology increasingly shows that digital integration in community development is very possible as a strengthening effort.

According to information obtained, Pela Lama Village has a Tourism Association (Pokdarwis) which has received a lot of assistance specifically to manage and develop tourism. Pokdarwis Pela Lama Village also has limited tourism marketing. Since the COVID-19 pandemic that broke out in 2020, the decline in the number of tourist visits was very significant compared to 2019, they complained about their limitations in tourism marketing after the COVID-19 pandemic. Fintech integration is an effort to advance a digital-based financial system, this practice has been implemented in Pela Lama Village tourism and is a potential asset. The application of this Fintech can be developed into other business sectors, and the Pela Lama Village Pokdarwis can be a mentor to provide direction for its application to other business sectors.

V.2.2. Institution

Based on the findings of the NESP survey, there are a number of active members of government institutions. The results of field observations and FGDs also showed that the government institutions in each village that became the location of the FGDs were very open to outside parties to cooperate or assist in the stages of this field research.

A. Health Care Facilities

Each village where the FGD is held has a Posyandu or Puskesmas which is active from 8 am to 12 am. Usually the village Posyandu provides health services by one nurse who is on standby during service hours and it is still possible to provide emergency health services outside Posyandu operating hours.

Table 4-24. Health Care Facilities from NESP Survey

Value	Percentage
Pustu	28.1%
Puskesmas	26.7%
Posyandu	20.7%
Puskesmas, Posyandu, Bidan	9.6%
Pustu, Bidan	6.7%
Pustu, Posyandu	3.0%
Puskesmas, Bidan	0.7%
Pustu, Mantri	0.7%
Pustu, Bidan, Mantri	0.7%
Puskesmas, Posyandu	0.7%
Self Healing	0.7%
Bidan, Mantri	0.7%
Puskesmas, Pustu	0.7%

B. Educational institutions

Each village where the NESP Survey was conducted has educational institutions from elementary to high school. This is in line with the high APS statistics for East Kalimantan Province. To take higher education, generally children migrate to urban areas such as Tenggarong, Samarinda, or Balikpapan which is closest to the village area.

Table 4-25. Educational Institution from NESP Survey

Value	Percentage
Elementary School/ Same Level	45.8%
Junior High School/ Same Level	31.4%
High School/ Same Level	21.4%
Non-formal School / Keagamaan	1.3%
University	0.1%

In addition, it is still possible that there are institutions that have not been captured in surveys and field observations. The research time and the limited number of questions have not been able to summarize all the active institutions in each village.

V.3. STRATEGIC RECOMMENDATIONS FOR COMMUNITY DEVELOPMENT PROGRAM

As previously explained, the asset-based community development model sees assets owned as having positive values that can be developed. Field findings indicate that the assets owned by Communities in the Peat Area have the potential to be developed to reduce poverty. An empowered community is a society that can meet its needs and solve its own affairs, because the essence of empowerment is to make people aware of problems and can solve them through existing capabilities.

In this section, recommendations for community development programs that can be implemented with the community will be described.

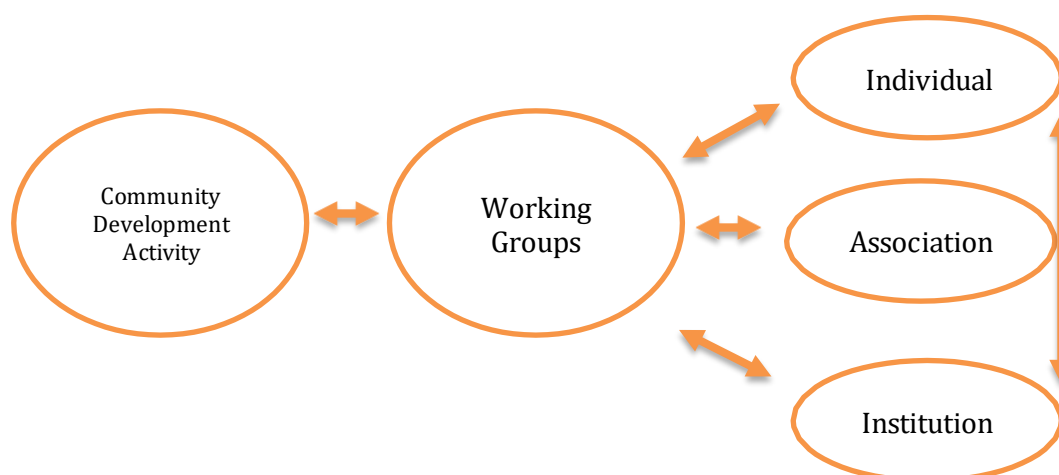
V.3.1. Organize Working Groups

By organizing working groups, representatives from each group can be brought together to work together and exchange information on socio-economic activities that can strengthen one another. Working group members should be representatives of existing groups from each village so that the cooperative relationship between each group and village can be strengthened in the working group.

With the preparation of working groups, the solutions to problems that exist in each group and village can be discussed together. Strong working group ties can increase the capacity of its members, and then he can strengthen the groups and villages that they belong to.

Organizing working groups will facilitate the ultimate goal of the main community development activities. Activities that support the main objectives can be discussed in working groups so that the needs of each village and group can be resolved one by one through working group activities. The working group formed will become a forum for each group and village to voice aspirations that are beneficial in community development throughout the peat area.

Figure 3-69. Working Group Formation Scheme



Forming a working group can make it easier to bridge the interests of each individual, association, or institution. The initial stage can be to ask for recommendations from the village government and qualified figures to provide direction to form a working group. This working group is the priority for driving activities that can strengthen community capacity.

Every community development activity that will be carried out or its planning should be communicated with the working group, because this working group will be the milestone for the sustainability of community development in this peat area.

It is very important to train their creative minds and analysis in every activity, teach them to see opportunities and expectations, so that the goals of this working group are with the presence or absence of community development programs/projects from external parties, they can still plan their own community development activities.

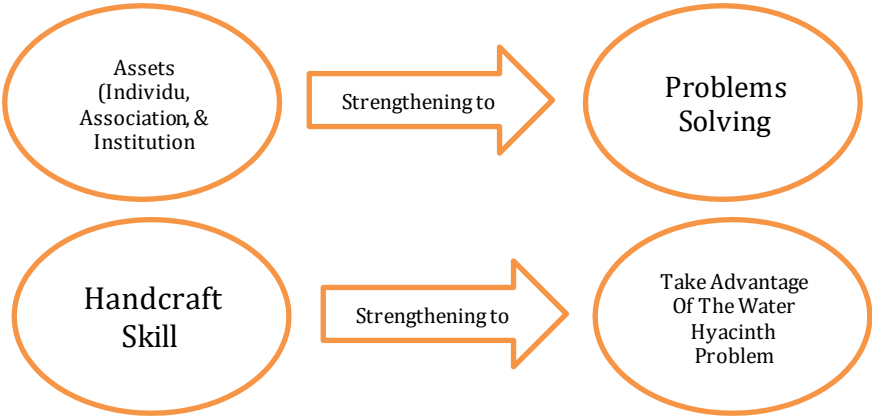
V.3.2. Asset Utilization and Strengthening

The potential of existing assets can be utilized to overcome current problems through training to strengthen this potential. This is intended to train the community's independence in solving problems and taking advantage of every opportunity around them.

One of the prospects that can be developed for the early stages of this strategy is to enrich craft techniques through handicraft training. The ability of this craft can at the same time solve the problem of river pollution cases where the increase in the presence of water hyacinth plants in Muara Kaman Ulu Village or cases in other villages can be used as a source of income. Water hyacinth is one of the most widely used craft materials.

Based on the potential assets of making handicrafts, conducting training on the use of water hyacinth as a craft material, this method of activity is very possible to be carried out according to interests and abilities. Or for example, the problem of household waste management can be used as an opportunity with training activities on the management of plastic waste into handicrafts, this has also been done in Pela Lama Village.

Figure 3-70. Change The Mindset of Problems Into Opportunities



V.3.3. Strengthening Business Institutions in the Village

We could bring a sustainable business perspective to the community by seeing the village as a community-owned joint enterprise. Villages have legality, complete organizational structure, special departments, leaders, assets (Human Resources & Natural Resources) that can be developed through investment.

At this time, we can see that there are villages that have succeeded in managing their businesses through BUMDes, some of the prospective sectors that have proven success with BUMDES

management are: ecotourism, organic agriculture, village-specific processed food, handicraft industry, and many others. actually, this potential is owned and could be managed in any village.

V.3.4. Activate and Strengthen BUMDes

In all the villages where the FGDs were located, it was found that each of them already had a BUMDes, but the problem that occurred was that most of the existing BUMDes were still passive and did not have activities that could significantly strengthen the village economy. BUMDes was built with the aim of moving and accelerating the village economy. It is hoped that all the resources owned by the village can be managed by the villagers themselves to increase the village's original income, so that the village can be independent. BUMDes is able to strengthen.

One of the models that can be developed in building BUMDes is a participatory³⁴ business scheme. In this way, BUMDes can be saved, while strengthening the economic sectors in the village. For example, for example, freshwater fish commodities can be purchased by BUMDes for resale, this means that BUMDes has the role of fish collectors/local middleman in the village, although BUMDes does not necessarily shift the roles of fish collectors/ local middleman, fish collectors/ local middleman can invest capital in BUMDes.

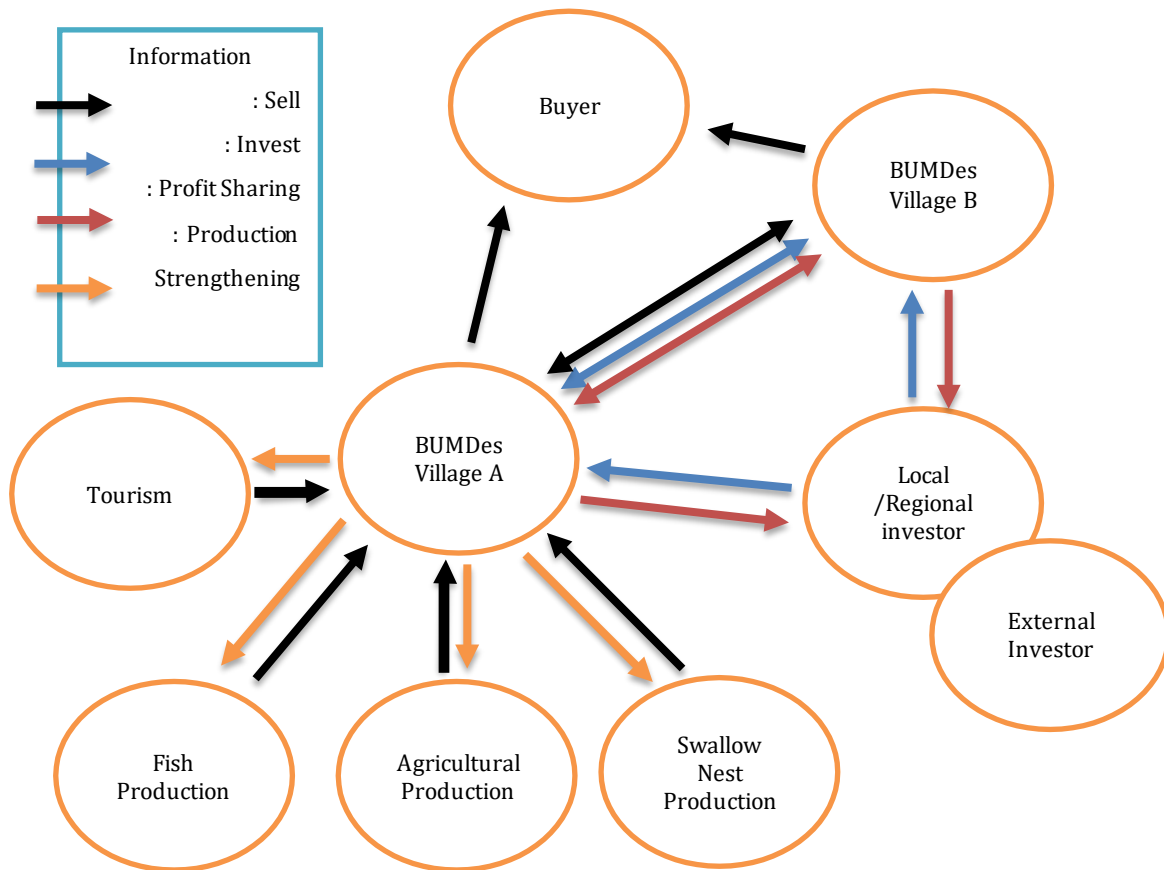
With a profit-sharing scheme with a predetermined agreement. This can be applied to each commodity. BUMDes can also accommodate the need for capacity building in each economic sector in the village to get maximum benefits for the welfare of the community. Even if each BUMDes in the village has been running well, cooperation between BUMDes is very possible, this collaboration is also possible to get bigger partners.

The profit obtained by BUMDes does not necessarily become an advantage for the village/village government entirely. Associations/individuals/institutions that become BUMDes partners who sell their products through BUMDes can get a share of the profits. The benefits provided are not only in the form of money, they can be in the form of tools or other assistance to increase production output.

Even when profits far exceed operational needs, BUMDes can provide benefits such as health, education, or supporting certifications to partners to build family ties and partners who feel valued will continue to maintain good partnership ties.

³⁴ Faedlulloh, Dodi. 2018. BUMDes dan Kepemilikan Warga: Membangun Skema Organisasi Partisipatoris. *Journal of Governance* Volume 3, Issue 1, June 2018 (1-17)

Figure 3-71. BUMDes participatory scheme



V.3.5. Build A Digital-Based Business Market Platform

Based on field findings which show that public interest in taking advantage of the digital era is found in several villages, it is possible to accommodate online-based digital market platforms to strengthen the economy of the people in the Peat area. We can follow the existing digital market model in marketing products, for example Tokopedia and Traveloka. With the establishment of a digital market platform, the needs between sellers and buyers can be met more quickly and precisely.

Building a community startup is also part of running the program of the Indonesian Ministry of Communication and Information (Kominfo) and the Indonesian Ministry of Tourism and Creative Economy which developed the 1000 startup program.

With the emergence of various Startups that are currently needed, of course a forum that is able to support the success of Startup itself, the Indonesian government in order to realize Indonesia as a superpower country to fully support the growth of Startup in Indonesia, one of which is through the 1000 movement program (a thousand Startup), through This movement the Indonesian government wants to create 1000 new startups.

Based on Presidential Regulation Number 6 of 2015 concerning the Creative Economy Agency, a system is needed that is able to increase national economic growth and ensure the implementation of government programs. Then it is also supported by Presidential Decree Number 70 of 2019 which states that the function of the Tourism and Creative Economy Agency is to provide guidance and

support to all parties involved in the creative economy in the field of application development³⁵.

This digital marketplace platform can also be planned to be accommodated through BUMDes so that the profits obtained remain a mutual benefit which can then be used to strengthen the capacity that is returned to the community. If one of the BUMDes succeeds in accommodating this digital marketplace platform, it is possible that this model will be further developed to become a forum for other BUMDes at the District, Regency, and even National levels. If all villages in Indonesia have one marketplace platform to sell their commodities online, exporters can become regular users of marketplace services and welfare at the village level can increase.

This application can also accommodate and develop the tourism sector, where tourism potential in all regions can be marketed through the application. This clearly can build good cooperation between villages in the tourism sector. The findings show that the existing tourism potential is very diverse and spread across various villages, such as the results of the NESP survey for the tourism sector. Each sells their tour packages and offers their guests to explore other villages.

One alternative in building and developing a startup is to join an incubator program. The business incubator is an alternative and strategic program in developing new StartUps. An integrated coaching program with the necessary characteristics can help to carry out well-structured operational stages, as well as being able to assist community startups in facing the initial period of running their business.

With this technology incubation, it is hoped that it will increase the capacity of community startups to understand modern management and technological developments needed to build startups. Then later it is hoped that the digital economy ecosystem in the Peatland area can be filled by young entrepreneurs who are creative, innovative and modern, so that they can survive to become one of the motors of sustainable business from the changes that will occur.

This stage of activity can be carried out at the end of the program, it is hoped that when each commodity asset (Individual & Association) has succeeded in increasing the enthusiasm to work together to increase the production of their respective businesses, this digital market platform can accommodate sustainable business development to compete with a more competitive market. In addition, the selection of this activity at the end of the program is intended so that registration for startup incubation programs can be registered through active BUMDes.

³⁵ Zulkarnain, Wendy., Sheila Andini. 2020. Inkubator Bisnis Modern Berbasis I-Learning Untuk Menciptakan Kreativitas Startup Di Indonesia. Adimas: Adi Pengabdian Kepada Masyarakat. Vol 1 No.1 November 2020.

CHAPTER IV: CONCLUSIONS

Summarizing the condition and socio-economic status of the community around the peat area in the study location, it is necessary to pay attention to several things, namely financial and non-financial welfare, health, knowledge. The welfare depends on the natural resource capital, social capital, economic capital and political capital owned by the community which can ultimately be measured by the services and facilities perceived by the community.

In terms of financial welfare, the level of community welfare is quite good, among others, in peat villages located on the outskirts or borders of the Mahakam River or tributaries of the Mahakam river. This means that we cannot say that they are poor. The condition of housing/settlement as well as the community's environment is not necessarily an indicator that they are poor. The housing/settlement conditions are more about the cultural aspects of the people living along the river.

Viewed from the average income of the community per month financially is Rp. 3.566.054,-. This amount, although it looks relatively small, is sufficient for the needs of the community whose average financial expenditure is Rp. 1.995.920,-. The financial income that is not large enough is balanced with the needs of people's lives which are also not so high.

The results from the river (fresh and processed fish) as well as the results from farming activities in the surrounding land are so far sufficient to meet the economic needs of the family. The catch of fish or fields that are sold or consumed by the family is still able to meet the needs in terms of nutrition, food adequacy and food security.

However, in general, people do not have economic welfare planning. It is still rare for people to save regularly. Economic needs tend to be seen in the short term. The money that is currently used, and for tomorrow's needs will be sought again next.

This condition is certainly related to public perceptions and opinions about the education of children or family members. Society has not seen education as a top priority because children's education is primarily based on the wishes of the child. If the child does not want to continue school, usually the parents also do not force it.

Likewise, with the health aspect, the community does not reserve a special budget for health because illness is considered an incidental event where when a family member is sick and has to go to a health facility, they use the available funds. From the results of the study, it appears that the use of funds for the benefit of energy (electricity) is prioritized over education and health, because every month it is always reserved or prepared.

Judging from the aspect of the availability of natural resources around the village, the community has fairly easy access and is still free to manage and use it, the river and land products are still sufficient to meet the needs of the community and are able to bring up other businesses such as processing fish products, handicrafts and others.

Economic business that arises from the existence of natural resources (rivers and land) is a positive value from natural resource management itself. The future threat that needs to be considered is preventing environmental degradation (pollution of river water and peat soil caused by oil palm plantations and coal mining) in order to maintain peat ecosystem services.

From the social side, the community is still thick with the life of mutual cooperation, gathering in the afternoon or evening and helping each other between residents. Moreover, with the existence of local wisdom that is realized or not realized by the community, but in general people still practice it. Obedience to village leaders and community leaders also makes it easier for the government to carry out initiated programs.

Of course, this is a strong social capital to support natural resource management. Similarly, when viewed from the side of political capital. The level of community participation in the program initiated by the village is quite good, the village community is generally able to communicate well between residents and with the village government. This is also marked by the lack of conflict between residents that has occurred so far. Even if there is a conflict, the community is able to resolve it at the village level.

Limitations related to services and infrastructure are more about access considerations because the location is quite far and remote from the city center (district or sub-district). However, the independence of the community is quite good. This is certainly a concern of the government regarding future village infrastructure programs.

If the question is whether the village community feels prosperous with the current condition? The immediate answer is that they feel quite well. What is really needed is to improve the quality of community welfare through long-term programs, especially those related to education, health and economic planning for the long term so that rural communities can adapt to the conditions of progress in the next 10-20 years.

Another thing that must be a concern is the threat of environmental degradation and pollution. the development of oil palm companies and mining activities has little effect on the deterioration of the environmental and social quality of the community. Currently, there are complaints from the public because of river or water pollution which is suspected to have come from oil palm plantation activities and coal barge shipping.

Water pollution certainly has an impact on the availability of fish in the future. Likewise, socially with the existence of oil palm plantations and coal mining, some people who originally had a fishing and farming culture, have now turned into plantation and mining employees, in the future this needs to be anticipated so that local wisdom in resource management does not fade.

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ABOUT PROPEAT

The Peatland Management and Rehabilitation Project (PROPEAT) is a bilateral collaborative project between the Government of Indonesia and the German Federal Government through the German Federal Ministry for Economic Cooperation and Development (BMZ), and implemented by the Directorate of Peat Degradation Control under the Ministry of Environment and Forestry's Directorate General for Environmental Pollution and Degradation Control, and the German Agency for International Cooperation (GIZ).

The primary aim of PROPEAT is to make the management of peat and wetland ecosystems in North Kalimantan and East Kalimantan provinces more ecologically sustainable. This is achieved through an integrative planning process in a framework of protection and sustainable management; supporting improvements to peat and wetland management practices; and disseminating results of applicative research and lessons from the field to local, national and international stakeholders.

PROPEAT operates in 13 Peatland Hydrological Units (KHGs) covering an area of 342,000 hectares in North Kalimantan, and 16 KHGs with a total area of 347,000 hectares in East Kalimantan. Some peatlands in North Kalimantan are situated in the Kayan-Sembakung Delta region adjacent to mangrove ecosystems. KHG areas in the provincial span the districts of Tana Tidung, Nunukan, Bulungan and Malinau. In East Kalimantan, the largest peatland areas are found mainly in the Central Mahakam region, which covers the districts of Kutai Kartanegara, East Kutai and West Kutai, with smaller peatland areas in Berau and Paser districts.

Together with its main partners and stakeholders, PROPEAT supports various activities relating to the development of baseline information; policymaking and integrated planning processes; implementing sustainable land use management; strengthening livelihood and economic development; implementing action research; and supporting the dissemination of knowledge, lessons learned and best management practices.



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